Malavika Kapur

Psychological Perspectives on Childcare in Indian Indigenous Health Systems

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Psychological Perspectives on Childcare in Indian Indigenous Health Systems

With a Foreword by B.V. Subbarayappa

Springer

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Foreword

In the West, the tradition of medicine owed a great deal to the new ideas and methods enunciated by the Greek savant, Hippocrates of Cos (b. 430 BCE), which set aside the then prevalent faith cure as well as superstitious healing practices, and emphasised the importance of meticulous observation and inference of the causes of diseases. The Hippocratic approach was in the main related to its concept of the 'four humours', and the four 'elements' as well as their four primary qualities, namely hot and cold, dry and moist, as expounded by an earlier Greek philosopher, Empedocles (c. 500–430 BCE). This tradition had undergone some modifications around the second century CE by the exposition of Galen of Pergamum (who lived mostly in Rome), who thought of the basic principle of life in terms of a spirit, or *pneuma*: *natural spirit* in the liver; *vital spirit* in the left ventricle, and the arterial *animal spirit*. The Galen–Hippocratic medical tradition held fort for nearly 1500 years in the West, but had to yield place in the eighteenth century to the vibrant rationale of the scientific method in understanding the human physiology and the causes of diseases.

However, the Galen–Hippocratic ideas had already found new adherents among the Arabic men of medicine between the eighth and twelfth centuries, leading to what came to be known later as the Graeco-Arabic or 'Unani' medicine in the Eastern Islamic countries. The greatest authoritative text on the Unani system of medicine is *Al-Qanun* (Canon of Medicine) by Ibn Sina (980–1037), or Avicenna, of Bokhara, a Central Asian Muslim scholar who was a contemporary of the well-known encyclopaedic mind, Al-Biruni (973–1048). A century earlier came a great Arabic physician, Al-Razi (865–925), who lived in Baghdad and whose work under the name, *Kitab al-Hawi*, dealt with the Greek, Persian and also some aspects of Indian medicinal practices. This comprehensive treatise was translated into Latin with the name *Liber Continens* by Moses Farachi in the thirteenth century, and it emerged as the torch-bearer of the medical tradition in medieval Europe.

In the East, Asian traditional systems of medicine, notably those of India, China, Tibet and Islamic Central as well as West Asia have not lost their sheen even amidst the advent and multi-dimensional practice of modern medicine and

surgery over the past century or more. On the other hand, not only have they carved a niche for themselves in their own regions but also some of their treatments have begun to find acceptance in several Western countries. The innate strength of the major Asian systems of medicine lies in their holistic approach towards body–mind harmony as part of their philosophic, triple-stranded *man-spirit-cosmos* view—the 'outer' man with his physiological system being in harmony with his mind, the body–mind harmony being perfectly in tune with the spirit within, and all of them in equilibrium with the cosmos or the universe.

India has been the home of what may be termed as *medical pluralism*. Apart from the expanding and sophisticated curative practices of modern medicine and surgery, Ayurveda, Unani, Siddha, homeopathy, naturopathy, folk medicine as well as Tibetan and Chinese medical practices here and there, have been playing a significant role in the medical treatment of vast masses of the subcontinent. Ayurveda is an indigenous system with Indian philosophical roots going back to about the sixth century BCE, while Unani entered India from Islamic Central Asia around the thirteenth century CE, and received subsequently great encouragement from the Mughal rulers. The seed ideas of the Siddha system (mostly prevalent in Tamil Nadu and among Tamils) came from the Chinese Taoist philosophy and its *yin* (female) and *yang* (male) concepts, which developed perhaps around the sixth–seventh century CE. However, in course of time it also adopted the Ayurvedic concepts of five elements and three humours. The core ideas of Tibetan medicine too were influenced by Ayurvedic ideas and practices. Both the Siddha and the Tibetan systems have also the tantric as well as yogic imprint on their healing methods.

In a well-structured presentation in her book on childcare in the Indian health systems from a psychological perspective, Prof. Malavika Kapur has wisely brought out the basic principles of Ayurveda, Unani, Siddha as well as the Tibetan system and has critically examined them before she has discussed their ideas and practices of childcare, since they are of fundamental importance for understanding the latter. She has discernibly dealt with the developmental approach to childcare, diseases and disorders of childhood as well as their treatments according to the four systems, and thoughtfully reflected upon childcare across these systems. It may be noted that Ayurveda deals with eight specialities (*ashtanga*s) of which *kaumarabhritya* (obstetrics, gynaecology, neonatology and paediatrics) is an important one. The Ayurvedic treatises, particularly the *Kashyapa Samhita*, shed light on mother and child care as well as the associated aspects. The other three systems, too, deal with them in their own manner. Prof. Malavika Kapur has diligently brought to the fore and discussed the approaches of the four systems to childcare and allied treatments as presented in their medical texts.

An admirable aspect of Prof. Kapur's work relates to the perspectives from the standpoint of the psychology of child development as gleaned from the four systems. The last chapter rightly focuses on important issues which will be of great interest and concern to development psychologists, paediatricians and others involved in the care of disabled children. I have no doubt that this book, with

its clear and precise expositions of childcare in all of its dimensions as conceived and practised in the four Asian traditional health systems, is a valuable addition to the extant literature on this fascinating subject. The comparative method of understanding systems of different thoughts and practices, as traversed by Prof. Malavika Kapur, is indeed an exemplary one.

B.V. Subbarayappa
Former President
International Union of History
and Philosophy of Science (ICSU-UNESCO)
Retired Executive Secretary
Indian National Science Academy

Preface

The term ‘indigenous health systems’ in the title needs some clarifications. There are many indigenous healing traditions in India of great antiquity that include the folk healing traditions. In the present book four indigenous health systems are included. These are Ayurveda, Unani, Siddha and Tibetan medicine. These systems come under the mandate of the Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy), Government of India. AYUSH actively promotes research, practice and training in these systems. The author has not included homeopathy, which is included in the AYUSH umbrella and is widely practised in India. However, it is of recent German origin and obviously not indigenous to India. On the other hand, Tibetan medicine is practised in some centres in India and owes its origin to Ayurveda.

As I got down to compiling the material for the four segments of the indigenous healing systems of Ayurveda, Unani, Siddha and Tibetan medicine, I made an alarming discovery that I had no access to material due to my lack of knowledge of Urdu, Tamil and Tibetan languages. Fortunately, Ayurveda, as exemplified by the *Kashyapa Samhita*, has a vast number of texts translated into English. In the Unani and Siddha very little on paediatrics is available in English translation, while in Tibetan medicine none is available. As I started gathering the material I discovered that the narratives in the four systems varied a great deal. I stayed on with the original formats examining phenomenology, aetiology and treatment and found that prevention is the most important aspect in all the systems. The classifications, unlike in modern medicine, were based on aetiological speculations. Though the systems emerged out of humoral theories as brought out by Ayurveda, language, religion, philosophy, geography, social and cultural influences modified the systems enough to mark them apart as separate systems. This was most apparent in the childcare systems.

First, the basic framework for each system, basic principles of care of adults is dealt with, albeit briefly. Second, the developmental approach to childcare focusing on normal development and, third, on the minor and major disorders, their phenomenology, aetiological speculations and treatment are discussed. The

treatments are covered in a sketchy manner as this is not meant to be a self-help book for a lay reader.

As a developmental child psychologist it has been an interesting discovery for me to know that in the history of indigenous medicines, some of the greatest physicians were indeed child prodigies! Vriddha Jivaka, the scribe of *Kashyapa Samhita*, Ibn Sina in the Unani system, and several physicians in the Tibetan medicine were child prodigies.

I have presented the narratives as they emerged in each of the systems based on my reading and interactions with practitioners. If I were to make the style uniform, it would have failed to highlight the richness of narratives in each of the systems. My most rewarding and touching experience in this exploration has been with Dr. Tenzin Lhundup, the young Tibetan lady physician who orally translated the Tibetan paediatric texts for me.

Malavika Kapur

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I am grateful to Dr. R.N. Dorjee and Dr. T. Lhundup of the Men Tsee Khang Branch Clinic, Bangalore for their compassion and generous sharing, Men Tsee Khang, Dharamsala (HP) for support through publications, museum, the conference in June 2013 and for the audience with His Holiness, the Dalai Lama. I am thankful to Dr. Siddiqui M.K. and his team at the National Institute of Unani Medicine, Bangalore for translating the paediatric section from Arabic/Urdu texts. Thanks also go to Drs. Svapna and Samir Sabnis, the paediatricians in my family; Dr. Shridhar B.N. Former Director, National Ayurveda Dietetics Research Institute Bangalore, for putting me in touch with key people who could help me, and for the generous use of the library; and Prof. Gilles Bibeau for his valuable input into the Unani section.

I greatly appreciate the efforts made by Rajalakshmi and Poornima Bhola in going through the manuscript through a fine toothcomb, slogging through language barriers, fuzzy sentences and elusive concepts—in short, sharing my own struggle in writing this book.

Professor B.V. Subbarayappa, a renowned scholar and editorial fellow of the Project on History of Science, Philosophy and Culture in Indian Civilisation (PHISPC), Centre for Studies in Civilisations, graciously wrote the foreword to this book and I owe him my deep gratitude.

Finally, I thank the anonymous Springer reviewer for the candid and critical comments that has led to greater clarity in the relevant sections.

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Erratum to: Disorders of Childhood and Treatments E1

About the Author

Malavika Kapur is a Visiting Professor at the National Institute of Advanced Studies, Bangalore. Earlier, she was the Professor and Head of the Department of Clinical Psychology at the National Institute of Mental Health and Neurosciences, Bangalore. She has a Ph.D. in Clinical Psychology and has 12 books and over 120 publications in peer-reviewed journals to her credit. She is a Fellow of the Indian Association of Clinical Psychologists and the Indian Association of Child and Adolescent Mental Health and the British Psychological Society. Recently, she has been honoured by the National Academy of Psychology with an honorary fellowship and a lifetime achievement award. She has been a consultant for organizations such as the World Health Organization, University Grants Commission, Government of India; the National Council for Educational Research and Training; National Institute of Public Cooperation and Child Development; the Indian Council of Medical Research; and the Indian Council of Social Science Research. She has been twice awarded a scholar in residency at the Study and Conference Centre in Bellagio, Italy, by the Rockefeller Foundation. She has been on the advisory group of the ICD revision of child psychiatric disorders at the WHO Mental Health and Substance Abuse Division, Geneva, from March 2010.

Professor Kapur has deep interest in culturally embedded psychological assessments and interventions for children with mental health problems. She also works with disadvantageous school children in urban, rural and tribal areas to promote their psychosocial development, using child-centred play way methods. She writes fiction for adults and children and has recently published a fictionalised version of the *Kashyapa Samhita* as a novel.

Part I
Indigenous Systems of Medicine

Chapter 1
Introduction: Indigenous Healthcare Systems in India

In most ancient civilisations, healing practices were inextricably woven into religious practices of the geographic regions. Pre-scientific healing practices before Hippocrates adopted deities from Greek mythology and Ayurveda from Hindu mythologies and Vedic practices. These date back to 2000 BC. With the advent of Christianity, the ancient religions as practised across the world were pejoratively labelled pagan or heathen religions.

The first dramatic shift from archaic religious medicine occurred at the time of Hippocrates (460–377 BC), who completely discarded religious practices. He is considered to be the father of modern medicine in Europe and the Middle East. However, the real break from religion came in the nineteenth century with the discovery of anaesthesia and microorganisms as causes of diseases. There were many other advances leading to a further shift from the humoral theories of Hippocratean medicine. Medical practice across the world was strongly influenced by missionary endeavours and colonisation, often replacing indigenous healing and religious practices with European medicine. This led to the rapid spread of modern medicine outside of Europe. It is interesting to note that Unani is the forerunner of modern medicine as it combined the Arabic and the Hippocratean systems. Hence, Unani has no religious underpinning. On the other hand, Ayurveda, Siddha and Tibetan medicine continue to be influenced by the original religious leanings and practices. The blend is most prominent in Tibetan medicine, followed by the Siddha system and then Ayurdeva. For example, the origins of the three systems are attributed to divinity. They were Brahma for Ayurveda, Shiva for Siddha (see footnote 2) and The Buddha for Tibetan medicine.

Medicine in India can be traced back to the four Vedas (the *Rigveda*, *Yajurveda*, *Samaveda* and *Atharva veda).* Vedic medicine was a combination of religious, magical and empirical medicine. Indian philosophy and early medical schools

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probably emerged around the seventh century BC, starting with the Upanishads.[1] Around the sixth century, religious reform movements such as Buddhism and Jainism reinforced the notion of karma, which found expression in medical doctrines as well. Thus, the early history of medicine was inseparable from the practice of religion.

On the other hand, modern Western psychology, drawing mainly from philosophy, has always been anchored to the Cartesian dualism of the body and the mind. Scientific parsimony and specialisation are considered essential for scientific advancement. In contrast, the ancient Indian approach is holistic. It proposes that the universe and man within it function as an interactive and a dynamic system.

In the contemporary world, three major areas of psychology have indicated the coming of age in adopting holistic approach in psychology. These are developmental psychology, health psychology and positive psychology. These three newer trends are embedded in the Ayurveda system of healing in the Indian tradition from antiquity.

Developmental psychology is the longitudinal study of the entire life span of an individual. The salient features of developmental psychology are:

(i) Life span approach;
(ii) Focus on developmental continuities and discontinuities;
(iii) Sensitivity to the contexts in terms of gender, social class, culture and other proximal and distal variables;
(iv) The perspective that bio-psycho-social variables interact in a dynamic yet holistic manner and determine the individual's behaviour.

Health psychology as a subdiscipline of psychology emerged only in 1978 in the West, out of the work of Logan Wright (cf. Kadzin 2000, 2001). Over the years, the dualism of body and mind has been perpetuated by medical technology. Mechanistic approaches, though they have been successful in conquering acute infections, have failed in addressing problems of chronic diseases such as cardiac disease, stroke, cancer, diabetes and HIV/AIDS. This has been more so in the case of prevention. By the late 1960s and early 1970s the need for a comprehensive and holistic approach to the diagnoses, treatment and prevention of the chronic diseases was evident.

In 1948, the World Health Organization (WHO) defined health as "A state of complete physical, mental and social wellbeing and not merely absence of disease and infirmity". In 1983 there was a proposal to include 'spirituality' as the fourth dimension, which was not accepted. In the following 15 years a resolution was framed by the World Health Assembly to add the spiritual dimension to the definition of health. John Paul-Vader (2006) termed spiritual health the new frontier of

[1]The Upanishads (lit., 'sitting at the feet of', to imply students receiving esoteric knowledge at the feet of their teachers) are a collection of texts in the Vedic Sanskrit language, and contain the earliest emergence of some of the central religious concepts of Indic religions. More than 200 Upanishads are known and the principal Upanishads predate the Common Era, probably written around 600–200 BCE.

health. Many scholars have cited research studies to support the move to add the spiritual dimension but they are yet to succeed (ICD10 2010; ICD 11 2016).

The history of science and medicine in India has evolved in a totally opposite direction in comparison with Western science and medicine. By adopting multiple approaches, medicine has evolved through a cross-fertilisation of disciplines naturally on the Asian soil, whereas super-specialisation is the hallmark of the Western approach. Philosophy and psychology were abandoned fairly early in the current medical practice. Simple paradigms of scientific parsimony dictated developments in medicine as well as in scientific research and practice.

In the indigenous medical systems, five elements and three humours with associated psychological traits have been pivotal to the understanding of health and disease. These are very essential to the analysis of the phenomenology, aetiology, diagnosis and treatment in indigenous systems. These constructs led to healthcare approaches where multiple symptoms caused by multiple causes lent themselves to multiple treatments. The treatments too focused not only on drugs but also on the individual's psychological and constitutional predispositions, lifestyle, diet and exercise and, most importantly, the mind. It was an entirely holistic approach in attempting to understand and assimilate complex interactions.

The models developed in the Western world require simple, clear and quantifiable units that can be studied empirically or experimentally, while the Eastern postulates may appear nebulous and unfit for scientific studies using Western scientific methodology. The scientific methodology is highlighted in the major medical text: The *Charaka Samhita* (C.S.), adopting the Nyaya philosophy, has laid down the following as the ground rules of scientific approach in Ayurveda. Though there is no specific mention, it has been extensively used in ancient Ayurvedic literature (Gopinath 2013). There are four methods of acquiring knowledge as prescribed in the Ayurveda:

1. The testimony of scriptures or word from the authoritative source (*shabda pramana*).
2. Direct perception or examination (*pratyaksha*). It has components of cognition, soul, senses, mind and sense objects, soul and mind do not find mention in *nyaya* philosophy but are part of the Ayurveda system.
3. Inference *(anumana).* Inference relates to the past, present and the future and is of three types: (a) relation to past: inference of the cause from effect (e.g., intercourse and resulting in pregnancy) (b) relating to future: fruits from the seeds, and (c) inference in general—relating to the present, e.g., inferring fire from the smoke. The inference of karma, carried on from past birth, too, is subscribed to by testimony and inference.
4. Experimental confirmation *(yukti)*. This indicates that the physician should have prior theoretical knowledge. Ayurveda is an applied science in which the patient and his disease have to be completely examined to determine the mode of treatment.

It may thus be seen that the methods used in Ayurveda is as scientific in approach as any modern scientific inquiry but were limited by the non-availability of

superior medical technologies. However, even today in the current practice, clinical acumen cannot be replaced by superior technologies.

There is a dearth of literature on childcare practices in ancient India, despite voluminous writings on health care for adults, especially translated into English. There is hardly any literature that deals with insights of the ancient seers from the perspective of developmental psychology. The present book proposes to fill this lacuna. The aim is to explore childcare practices in ancient India from the perspective of developmental psychology. This will be done based on a template provided by *Kaumarabhritya,* one of the eight branches of Ayurveda, and its counterparts in the Siddha, Unani and Tibetan medical systems. A common template will be used across these indigenous systems to highlight the aspects of normal development, phenomenology of disorders along with aetiological speculations, management and, most importantly, prevention. It is to be noted that there are some commonalities across these systems. The concepts at the core are the presupposition of 'humours' and their harmony or dysfunction. The human organism is viewed in its interaction with the external environment with shared property of the 'elements'. The belief in multiple causes and multiple treatment modalities presupposed a strong holistic approach in all these healing practices. The methods of examination, diagnostic categories and treatment packages may vary among the systems, but treatments mostly rely on herbs, metals, minerals and plants and mostly natural products. But in this section, the theories behind four systems are described in brief and the treatments are not focused upon. *Treatment details have been deliberately left out as not being important for current academic purposes.*

Contemporary revisions of psychiatric classificatory systems such as DSM 5 (2013) and ICD 10 (2010) and the forthcoming ICD 11 (2016) deal with syndromes, while the ancient systems are based both on phenomenology and aetiology, as well as prognosis. This may appear unscientific to a Western practitioner. However esoteric these systems have been, they were very effective in clinical practice.

The indigenous medical systems are of great antiquity. Though there is a tendency in the Western world to trace the origin of medical system to ancient Greece, historical evidence points to the fact that medicine was practised in India much before the Greece. Mishra (2001) traces it to a highly evolved healthcare system through pre-Vedic, Vedic and post-Vedic periods in India. Artefacts from the Indus Valley civilisation (around the sixth century BCE) revealed the worship of Shiva, who was considered the first physician among gods. The origin of Siddha medicine is in fact attributed to Shiva. The antiquity of Ayurvedic medicine is further corroborated by travellers' tales. Fa Hien in 399 AD in Pataliputra and Yua Chwang who was in India 629–644 AD at the Nalanda University saw flourishing healthcare systems. The seventh and eighth centuries saw many travellers and visiting scholars from East Asia, West Asia and Western Europe. It would be a worthwhile endeavour to examine the common features (or commonalities) between the indigenous systems and Western systems and to see what emerged out of the geographical and sociocultural contexts and took root, developed and bore fruit in a particular setting. I will focus on this in the subsequent chapters.

The commonalities are a product of interchange between the scholars and medical practitioners from the West and the East.

I will provide a brief sketch of four indigenous systems of health care in this chapter. After introducing the key concepts in each of the systems, I will then discuss the childcare components of each in the following chapters.

1.1 Ayurveda

The general meaning of the term Ayurveda is "science of life". According to the mythological accounts of Hindu origins, the universe was created by Brahma, who taught Ayurveda to Dakshaprajapati, who passed it on to the Aswini Kumar twins, who in turn taught it to Indra. Indra passed it on to several *rishi*s (sages).[2]

Initially, Ayurveda had two branches: There were only physicians and surgeons. Subsequently, and to the present day it has eight branches as described in the *Charaka Samhita* (C.S.), *Sushruta Samhita* (S.S.) and *Ashtanga Hridaya* (A.H.).

These are:

1. *Kayachikitsa* (Internal medicine)
2. *Shalya Tantra* (Surgery)
3. *Shalakya Tantra* (Ophthalmology and ENT)
4. *Bhutavidya* (Psychological and spiritual medicine)
5. *Kaumarabhratya* (Paediatrics, obstetrics and gynaecology)
6. *Agada Tantra* (Toxicology)
7. *Rasayana Tantra* (Geriatrics)
8. *Vajikaranta Tantra* (Eugenics and aphrodisiacs)

In recent times, more branches have been added to these eight branches. Of these eight branches of Ayurveda, *Kaumarabhritya* is the one that exclusively deals with diseases of women and children. While *Kaumarabhritya* shares the basic tenets of Ayurveda, there are distinct differences in the phenomenology, examination and the treatments in the care of children in the sole treatise devoted to children, namely the *Kashyapa Samhita* (K.S.). Treatises such as *Charaka Samhita, Sushruta Samhita and Asthanagarhadaya* sketchily deal with the treatment of disorders of

[2]In the Hindu mythology there are thousands of gods. To simplify, these may be described as follows. There is a trinity of gods: Brahma (the creator), Vishnu (maintainer of life) and Shiva (the destroyer). They have their consorts: Brahma's consort, Saraswati (the Muse); Shiva's consort Parvati, and Vishnu's consort, Lakshmi (goddess of wealth). However, Vishnu has 10 avatars including Rama (of the epic *Ramayana*) and Krishna (of the epic *Mahabharata*) and one of them being even the Buddha. Shiva and Parvati have their benevolent and malevolent forms. There are also children of the trinity and their consorts. The next are groups of gods (*sura*) and of demons (*asura*). The gods are immortal while demons are not. There are also gods who are personifications of natural elements. These could be the five elements, planetary constitutions and many others along with the sages of the yore. On the other hand, the variety of demons are evil forces that need to be destroyed. Many of the above beings find mention in indigenous medical texts. In the Tibetan religion, there are many Buddhas but the Medicine Buddha is considered the originator of Tibetan medicine.

children. The *Kashyapa Samhita*, on the other hand, deals extensively with the care of pregnant women, nursing mothers and newborns, in addition to that of children. Even the features of normal developmental trajectories are highlighted in the description of the *samskara*s, or rites of passage, such as *jatakarma* (ceremony at birth), *namakarana* (naming), *nishkramana* (outing), *annaprashana* (feeding of solids), *karnavedhana* (piercing of ears) and *upanayana* (sacred thread ceremony). Each of the rituals is meant to promote normal development and is practised in many traditional Hindu homes even today, with some regional variations.

Disorders are divided into common and serious disorders; these syndromes can be found in present-day textbooks though the names, aetiological speculations may differ. The serious disorders are attributed to supernatural forces and are called *graharoga*s. Prevention is an important consideration in the treatment of children.

The text covers the care of pregnant women and nursing mothers, the nature of foetal development and its interaction with the environment before birth. The developmental trajectories are stipulated in the *samskara*s or rites of passage as developmentally appropriate to promote psychosocial development of the child. These are of importance to the understanding of present-day developmental psychology.

Apart from the *Kashyapa Samhita* in Ayurveda, there is need to explore if such counterparts exist in the other indigenous systems. The following section briefly deals with the three other indigenous medical systems as practised in adults. The *Kashyapa Samhita* is the sole paediatric text in Ayurveda and has been translated into English (see Tewari 2002), Hindi (see Sharma & Bishajacharya 1953), Kannada (Bhattacharya 1956), and is readily accessible to those who wish to read it. In the other three systems, namely Unani, Siddha and Tibetan medicine, English translations are especially difficult to locate for paediatric texts. Paediatric practitioners are rare, though most physicians do see children along with adults.

1.2 Unani

While Ayurveda and Siddha systems have originated in India, the Unani system originated in Greece. It started with Bukrath (or Hippocrates, 377–160 BC) who freed the medicine from superstitions and magic. Subsequently, Galen, Rhazes and Avicenna (Ibn Sina)[3] promoted it. It spread to West Asia and East Asia and also

[3]Galen, or Galen of Pergamon (c. 130–210 AD), was a prominent Greek physician, surgeon and philosopher in the Roman empire. Galen influenced the development of various scientific disciplines, including anatomy, physiology, pathology, pharmacology, and neurology, as well as philosophy and logic. Rhazes (or Rasis, or Muhammad ibn Zakariya Razi Persian (854 CE–925/935 CE) was a polymath, physician, alchemist and chemist, philosopher and important figure in the history of medicine. Ibn Sina (Abū ʿAlī al-Ḥusayn ibn ʿAbd Allāh ibn Al-Hasan ibn Ali ibn Sīnā) (c. 980–16 August 1037) was a Persian polymath regarded as one of the most significant thinkers and writers of the Islamic Golden Age. He has been described as the father of early modern medicine. As well as philosophy and medicine, Ibn Sina or Avicenna's corpus includes writings on astronomy, alchemy, geography and geology, psychology, Islamic theology, logic, mathematics, physics and poetry.

took root in India. It owes its beginnings to Greek, Persian and Arabic healing systems and presupposes 'humours' as the mainstay. The examination of pulse, urine and stools is essential to this system. The Unani system recognises the influence of the environment on health. The seven aspects are: (i) *arkan* (elements), (ii) *mizaj* (temperament), (iii) *akhlat* (humours), (iv) *ada* (organs), (v) q*uwa* (powers), (vi) *afal* (functions) and (vii) *arwa* (vital spirit). The six prerequisites of good health are: air, food and drinks, body movements and repose, sleep and wakefulness, excretion and retention. The treatments are regimental, diet, pharmacopia and surgery. The management consists of elimination of the causes, normalisation of humours and normalisation of tissues/organs. The six branches of Unani system also include the care of children.

1.3 Siddha

The Siddha system of medicine is attributed to 18 Siddhars of Tamil Nadu. Sage Agastya is the father figure for Tamil literature, culture and medicine. The Siddhas were pioneers in all branches of knowledge in Tamil and were believed to have attained eight supernatural powers. Recording of pulse is a unique feature of Siddha medicine. Siddha medicine is divided into internal and external medicine. The system is inclusive not only of medicine but also astrology, alchemy, yoga and philosophy. *Varma* is the focus of treatment, where 108 points are identified in the body on which life forces act. Diagnosis is based on eight aspects of examination: tongue, colour, voice, eyes, touch, stools, urine and pulse. The care of children is considered to be one of the important branches of the Siddha system.

The preoccupation of the Siddha system appears to be with longevity and alchemy. This is also related to Tantrik practices, which are practised in the treatment of children. The developmental phases of childhood are called *paruvam*s. The interaction of *paruvam*s with diseases has been described in Siddha, revealing a very sound understanding of the developmental context and childhood disorders.

1.4 Tibetan (Buddhist) Medicine (*Sowa Rigpa*)

Tibetan medicine, originating in East Asia and the upper Himalayas, is currently practised in Tibet, India, Nepal, Bhutan, Ladakh, Siberia and China. Traditional Tibetan medicine employs a complex approach to diagnosis based on 'humours', as in the other three systems. The Tibetan system has been strongly influenced by Indian Buddhist literature and Ayurveda, especially *Ashtanga Hridaya* (A.H.). For our purposes, we will specially focus on the *Abhidharma Kossa Koshamsyan*, a book that expounds on foetal development. Pulse and urine analyses are crucial in Tibetan medical examination and treatments consist of behavioural and dietary modifications. Treatments are composed of minerals and physical therapy, such

as acupuncture and moxibustion (dry heat treatment). At the core of the Tibetan medicine lies the belief that ill health owes its origin to ignorance, attachment and aversion. A chapter on embryology in *Basic Tantra* (Paljor et al. 2008) deals with bio-psycho-social development of the foetus and promotion of the same. There are three parts to childcare: care of the neonatal infant up to one year, common childhood disorders and serious disorders due to evil spirits.

In all the four medical systems 'humours' are at the core of aetiology, treatment and prevention. The systems of examination and treatments may vary in their emphasis as the treatments rely on herbs, minerals, metals, diets. Living in harmony within and with the environment—as man is the part of the universe represents the holistic approach to healing that is common to the four systems.

The chapters examining the Unani, Siddha and Tibetan medical systems in Part I are based on the template provided in the *Kashyapa Samhita*, with special focus on developmental psychology. The major contribution of this book is to offer insights into the psychological understanding of childcare healing practices in ancient India. Part II offers critical commentaries on the four systems from the perspective of contemporary developmental psychology. A deliberate effort is made to keep Part I close to the original texts in form and presentation. Part II integrates the observations.

In Chaps. 17, 18, 19 and 20, the four systems are critically examined unlike Part I where the narratives are in accordance with the texts in each of the systems. If the author were to intersperse her comments to the chapters in Part I, it would blur the distinctions between the original statements and the commentaries on them. The original statements or concepts are retained and are only paraphrased. In order to avoid such pitfalls, the critical comments by the others and the author separately are offered in Part II. Occasionally, at places in Sect. 1.1, in Part I, critical comments are introduced citing the references.

It may be obvious that the chapters vary in their lengths depending on the availability of material which is clear, though at times ambiguous. The ancient texts are extremely long-winded, repetitive and archaic in the use of language. As an illustration, the qualities of the physician have been quoted in its entirety from the Tibetan text—as it was a comparatively small section. Apart from it, some concepts are unclear despite discussion with the scholars, for example, the "connecting channels" under anatomy in the Tibetan texts.

In all the four systems, the link between the five elements, namely sky, earth, water, fire, air and the humours, namely phlegm (*kapha*), bile (*pitta*) and wind (*vata*) is not very clear. For example, in the Tibetan medicine, the concept of *lhung* has been used at multiple levels and with multiple meanings (cf. Paljor et al. 2008).

What surprised me most was that despite being four distinct medical systems, the core concepts are the same in all the four systems. Variations in childcare, on the other hand, are quite distinct. This makes this exploration fascinating and challenging. It is challenging because of the scarcity of practitioners dealing with only children and absence of extensive compilation such as *Kashyapa Samhita* in the other three systems.

The origins of the four medical systems are embedded in the philosophy, psychology, spirituality/religion apart from empirical and clinical practices over the centuries. How does one examine these systems from the current psychological perspective?

The answer lies in current approaches in developmental psychology. Developmental psychology or the life cycle approach focuses on bio-psycho-social contexts, impact of age, gender, race, residence and sociocultural context on promoting development as well as influencing adversely to contribute to ill health. In addition, continuities and discontinuities in the developmental trajectories across the bio-psycho-social and cultural contexts across gender and age are important. The paradigms used in the realm of developmental psychology are holistic. Hence, developmental psychologists are best placed to examine these systems.

The attempt here is to examine the phenomenology, aetiology and diagnoses in the four ancient systems from a developmental psychological perspective. This book does not claim to be an authoritative account but observations of which lays the path open to such work. The absence of translated work on paediatrics renders this task difficult. This work could very well be carried out by practising scholars of the four systems, sitting together and arriving at a consensus. This work is only a beginning step. It is hoped that further work may be taken up by eminent scholars.

In Chap. 21, the penultimate chapter, the author's own observations on the four systems, under some common themes have found expression. These themes are physician characteristics, embryology, care of the child and the mother, breast milk, rites of passage in childcare, childcare practices across systems relation to folk medicine and finally the scientific methodology. In the final chapter, i.e. Chap. 22, implications to theory, practice and research from a contemporary psychological perspective are highlighted.

The appendices contain the plant and animal products, minerals, metals used in the four systems. Ayurveda provides much of the details common to the Ayurveda and the Siddha systems, while Unani and Tibetan systems have some unique preparations along with well-recognised plant-based preparations. The author makes no claims of it being comprehensive or completely accurate—due to her inability to access original/authentic sources.

Some of the author biases need to be made explicit to the readers. These are:

1. Indigenous medical systems seem to be inextricably tied with various social, religious or spiritual folk healing practices to varying degrees and these cannot be overlooked and left out of the ambit of the book as unscientific.
2. Systems such as Ayurveda and Unani claim to have adopted more 'scientific' methods, each of the four systems has its own inbuilt scientific methodology.
3. The Eastern practices are based on empirical findings and clinical practice and these are completely different from the Western approach by being entirely holistic in approach.

4. The author has deliberately attempted to keep narratives of the systems idiosyncratic to give a 'feel of the subject' to the readers—rather than a uniform presentation which the author perceives as an artefact.
5. As the developmental context is at the centre of the child healthcare systems and contemporary developmental psychology, detailed accounts are given on embryology, the pregnant woman and the nursing mother, newborns and normal child development and disorders in children.
6. One of the important aspects of healing in indigenous systems is the nature and competencies of the healer himself: something that is overlooked in modern medicine, but is highlighted in these systems.
7. Each of the four systems has its own unique format of presentation of phenomenology, theories and practices. The author finds it the most fascinating aspect of this work. The reader may find it perplexing to read the narratives in different styles. The author hopes to share her experience with the reader with these narratives in different contexts and styles.

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Indriya–Sthana	C.S. V
Cikitsa–Sthana	C.S. VI
Kalpa–Sthana	C.S. VII
Siddhi–Sthana	C.S. VIII
Kashyapa Samhita	K.S.
Sushruta Samhita	S.S.
Sutra–Sthana	S.S. I
Nidana–Sthana	S.S. II
Sarira–Sthana	S.S. III
Cikitsa–Sthana	S.S. IV
Kalpa–Sthana	S.S. V
Uttara–Tantra	S.S. VI
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Chapter 2
Basic Principles of Ayurveda

Ayurveda is composed of two words: *Ayu* is that which is always moving, indicating a dynamic dimension. Therefore, *ayu* means life and *veda* means science, hence the name means 'science of life'. It deals with creation as a whole, with a special emphasis on the biological living being. The principles of Ayurveda are holistic.

Ayurveda, the 'science of life', has emerged out of the philosophies of ancient India. Western philosophy and contemporary psychology have promoted Cartesian dualism of the mind and body and scientific parsimony. The specialisations in the field of medicine are seen as hallmarks of scientific advancement. Ayurveda is anchored in Samkhya and Nyaya philosophies, which have anticipated the most advanced concepts of contemporary science. As there is no compartmentalisation of the various disciplines, the medical system of Ayurveda follows the *Samkhya* tradition in its scientific approach. The major Ayurvedic treatises are supposed to be compilations of the works of the sages Charaka, Sushruta, Vagabhata the younger and elder and Kashyapa (*Charaka Samhita*, 400–200 BC, *Astanga Sangraha* of Vagabhata, 500 AD, *Sushruta Samhita* 600 AD), especially for children's diseases. Ayurvedic practices incorporate bio-psycho-social domains of human existence, adopting a holistic approach.

However, most of the theoretical constructs and medical practices in Ayurveda are based on clinical experience gained over the centuries. According to the *Charaka Samhita* (C.S., ca. 400–200 BC), the Ayurvedic theories of aetiology are based on Nyaya *darsana* (one of the major schools of ancient philosophy in India) that presents four scientific methods of proof:

1. The word, based on the experience and intuition of the sages (*shabda*)
2. Direct observation (*pratyaksha*)
3. Inference and deductive logic (*anumana*)
4. Experimentation (*yukti*)

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Table 2.1 Relation between the body and *panchabhuta*

Predominance of elements	Body elements/factors[a]
i. *Vayu*	*Vata*
ii. *Agni*	*Pitta, artava* (menstrual blood) and intellect
iii. *Ap*	*Kapha, rasa, majja,* semen, sweat, breast milk and *ojas*
iv. *Prithvi*	Muscle and faeces
v. *Agni* + Ap	*Rakta* (blood)
vi. *Ap* + *Agni*	Urine
vii. *Prithvi* + *Ap*	Fat
viii. *Prithvi* + *Vayu*	Bones

[a]These terms are explained in the subsections below
Source Gopinath (2013)

The physical body is made of *panchamahabhuta,* or the five prime elements, namely, *prithvi* (earth), *ap* (water), *tejas* (fire), *vayu* (air) and *akasha* (sky). Every physical object and energy in the universe is a composite of these five physical elements. These elements are present in different proportions in different structures and functions of the body as well. Gopinath (2013) very succinctly describes the relation between the body and the five elements (see Table 2.1).

Vata, pitta and *kapha* are the three vitiating principles (*dosha*s) that are composed of the five elements. *Vata* is predominantly *vayu* and *akasha, pitta* consists of *tejas,* and *kapha* of ap and *prithivi.*

Ayu (life) is defined as a configuration of *sharira* (body), *indriya* (sensory modalities), *satya* (purest form) and *atma* (self) (C.S.). Life is a period when these four aspects function together in cooperation and harmony. In 'death' these aspects disintegrate and depart. Ayurveda elucidates this integration, continuation and disintegration by preservation and promotion of health in a healthy individual, and prevention and management of disease in an unhealthy individual.

2.1 Some Key Concepts in Ayurveda

2.1.1 Svasthya *(Health)*

Svastha, or a healthy living being, is the one who possesses the equilibrium of *dosha*s (the triad of physiological functional elements), with adequate functioning of *dhatu*s (body tissues), *agni* (metabolic enzymes and digestive functions), *mala* (metabolic by-products and excretory functions), and gratification of *indriya* (sensory modalities), *manah* (mental faculty) and *atma* (self). Ayurveda deals with the complete person and not with the disease alone—the reason it is known as the 'mind-body medicine'. It primarily aims at health while focusing on the art of living.

Health is not just the absence of sickness. It is defined as *prasannatmendriyamanah,* that is, physical, mental and spiritual health where mind and spirit are in a *prasanna* (happy or content) state. The key to health is a complete psychosomatic equilibrium that makes it essential for us to be aware of the elementary rules and laws of living. This health care involves the entire being at its optimal physical and psychological levels in *samyaka yoga* (adequate contact or association), together with *kala* (season), *artha* (sensory modalities) and *karma* (actions), and is the main definition of health. According to Charaka, correlation of three states, *ati* (hyper), *hina* (hypo) and *mithya* (perverse) engender disease states in humans (C.S.).

General principles of health education in Ayurveda indicate a lifestyle for the maintenance of health. Ayurveda specifies three aspects: being aware, imparting and implementing. The first aspect in health is cultivating health awareness. A health-conscious individual knows how his body functions, how diseases are caused, how they should be prevented to maintain and promote health, to nurse oneself in illness and how to offer similar services to others when needed. The second aspect is participating in or cultivating social responsibility for health. Health is considered a social element where the attempt of an individual to remain healthy succeeds only when the society as a whole is healthy. Therefore, he must impart health education to others according to their learning ability. The third most important aspect is that of cultivating and living a lifestyle by adopting correct dietary habits, avoiding excess and following self-discipline that promotes health. Thus, health education is based on a common set of principles with diverse applications aimed at the maintenance of health for persons of different occupation, habits, place, time, etc. which comprise the lifestyle and behaviour of an individual. The primary motto of Ayurveda is the preservation and promotion of health. It lays stress on inculcation of the methods which are briefly given below.

Dinacharya, the daily regimen, is the period after getting up at the beginning of the day till going to bed at the end of the day. The first method is getting up early in the morning. For the ones whose lifestyles differ due to unavoidable circumstances, Ayurveda advises specific diet and mode of living conducive to their occupation.

Ritucharya, the seasonal regimen, is for a specific season. The year is divided into six seasons. Climate variations of different seasons have an extensive impact on the body and mind. Alterations in food and habits are considered a must during seasonal changes.

Sadvritta is the moral code of conduct recommended for health. Health connotes both physical and mental states in an individual. Linking one's thinking and living with moral standards is considered necessary for harmonious interaction with the society.

The outcomes of the recommended methods in Ayurveda harmonise the mental and the spiritual states, resulting in regularisation of physiological and metabolic activities in the body.

Charaka has described *upastambha trayas* (supporting pillars) (C.S.), namely, *ahara* (diet), *nidra* (sleep) and *brahmacharya* (celibacy). The state of health is balanced on these three supporting factors.

Ahara (diet) is considered to be one of the three important pillars of life. Diet is defined in different ways into 20 types of food. The quality of food, the mode of preparation, combination and quality of diet, habits of the person who has to take the diet and the time of taking the diet are stressed upon. Eighteen types of incompatible diets are delineated. Important factors in the selection of diet are *gandha* (smell), *rasa* (taste), *sparsha* (presentation), texture, etc. *Ahara* can also promote *satvika, rajasika* or *tamasika* temperaments.

Nidra (sleep) is the second supporting factor of good health. Charaka considers it essential for the toning up of the body and mind, balancing of the *dhatu*s (bodily tissues) and to give them *bala* (strength). Of the six types of sleep, *ratri svabhavaprabhava* or night-time sleep is the only natural and healthy sleep, whereas the other five types indicate sleep abnormality. *Sushruta* has condensed six types of sleep into three types. Vriddha (Elder) Vagabhata's six types of sleep more or less resemble the one described by Charaka. Sleep for adequate duration alone is considered useful. *Diva svapna* (day sleep) is approved for children and only during summer for adults, but contraindicated for people of *kapha prakriti.*

Brahmacharya is the third pillar. *Brahma* means to increase, expand or rise. *Chari* means follower. *Brahmachari* is a person who follows precautions and regimens for the growth of his body. This word also means *veerya rakshanam* (protection of semen). According to Ayurveda, *Brahmacharya* helps to keep the body young and energetic and to maintain and prolong youthfulness, vigour and vitality of the body. Hence, sexual indulgence should be minimal. *Yuvavastha* is the state of energy and vitality in the body. Basic regimes are recommended for the maintenance of its prolonged state.

2.1.2 **Tridosha** *(Triad of Constitutional Functional Correlates)*

The three biological units of the living body responsible for its total functions that include physical physiological functions are called *tridosha.* These three physiological correlates are products of the *panchamahabhuta* (five physical elements, namely, earth, water, fire, air and *akasha* of which every physical object and energy in the universe is a composite). The *tridosha* are: *vata, pitta* and *kapha.* These control voluntary and physiological functions of body movements, and support the body in a normal and healthy state when in equilibrium. They are susceptible to impairment or imbalance. In an imbalanced state they may disturb structural or functional elements of living beings, causing disorders. Thus, the *tridosha* play an important role in the aetiology, diagnosis and treatment of diseases.

The first element of the *tridosha*, *vata* (wind), is of five types, which symbolises movement and is responsible for rotating *dosha* and helping in its transformation. The second element, the *pitta* (bile), is of five types. It helps in digestion and formation of psychological thoughts and concepts and thereby helps

transformation. The third element, *kapha*, keeps the resultant cohesion and all the transformations intact at the right place. It functions as an adhesive for the body. *Vata* is an initiator, promoter of biological activity, unstable and has no physical attributes. *Pitta* is responsible for generation of body heat and certain psychological attributes of an individual. *Kapha* is attributed to physiological and psychological features such as heaviness, softness, coolness, stability and sweetness. In short, *vata* is activity, *kapha* is inertia and *pitta* is the balance between these two. The balanced condition or an undisturbed steady state of these three factors is known as *arogya* (health). However, the *tridosha* does not always maintain a state of equilibrium or stability. The imbalance or disharmony of any of the *dosha* results in *dosha roga*, or pathological conditions, resulting in disease and decay.

Dosha Prakriti

The three *dosha prakriti*s are described in detail for adults, as seen below. But sub-typing of children under predominant constitutional types is a very difficult task, hence avoided. Each *dosha prakriti* is defined by certain *lakshana* (physical, physiological and psychological traits). These are present in different proportions in every individual. A person having a maximum number of traits of any of the *tridosha* is supposed to belong to that category. The traits of each adult constitution that indicate the basic psychological inclinations or proneness are given below in brief. Every individual has the predominance of one of the following personality types. I am paraphrasing from the original descriptions in the texts as they may appear unconnected and rather convoluted.

Vata Prakriti: Individuals of this constitutional type are lean, unattractive, have rough and dry body surface, scanty or sparse hair, harsh, weak, broken and indistinct voice, unsound sleep, dislike for anything cold, have creaking joints while sitting, standing or walking, brisk movements, prominent veins, possess little strength and are incapable of severe exertion. They are infecund, vain, jealous, cruel, thievish, impulsive, ungrateful, talkative, hasty, easily excitable, easily subjected to fear, inconsistent, unsteady in friendship, fond of music and dance. They have quick comprehension, poor memory, habit of nail-biting, teeth grinding in sleep, a few friends, little wealth, have short lifespan.

Pitta Prakriti: Individuals who belong to this constitutional type have unpleasant looks, wrinkled skin, soft, yellowish complexion, copper-coloured lips, fingernails, palms, soles, palate, tongue and eyes, freckles, moles, dark spots, small eruptions, baldness or grey hair, loose limbed, quick setting of old age, susceptibility to stomatitis, keen digestion, copious urine, sweat and stools, unpleasant body odour, aversion to warmth, moderate strength, moderate sexual prowess, helping disposition, possession of wealth, moderate longevity. They are irritable, quarrelsome, indomitable, seldom overcome with fear, intelligent and have good memory.

Kapha Prakriti: Individuals of this constitutional type have oily, smooth, firm, compact, well-developed body, cheerful face, melodious voice, fond of sweet taste, good appetite and digestion. They are strong, enduring of pain or fatigue,

slow in activities, slow in formation of opinion, respectful towards superiors, obedient towards preceptors, seldom agitated or upset, broad minded, liberal, altruistic, grateful, self-controlled, steadfast in enmity or friendship, are true to their word and well-versed in science and arts. They have patience, selflessness, amiable disposition, sexual propensities that are above normal, possession of large fortune and prosperity, fine health and long lifespan.

A person with the predominance *kapha* is supposed to have *uttam prakriti* (superior personality and constitution), the one with the predominance of *pitta* is considered to have *madhyama prakriti* (medium constitution), and the one with the predominance of *vata* is supposed to have *heena prakriti* (inferior constitution).

2.1.3 Triguna *(Three Temperamental or Personality Traits)*

Ayurveda mentions three *maha guna* (primary cosmic properties) as components of mind. They are called *guna* because they are considered secondary, as *avayava* (parts) of the mind, and not as qualities or properties of the mind. Of these, *triguna*, the first one is *satva* (purest possible property of the three *guna*s). The latter two, *rajas* (energy) and *tamas* (inertia) are temperamental correlates responsible for various psychological states and vulnerability to disturbances. *Satva, rajas* and *tamas* are three constituents of the psychological personality as well as *vikriti* (psychopathology). The basic temperamental personality traits are stable. The impairment of *rajas* and *tamas* results in mental disorders. Every individual possesses a unique personality, making each person mentally and physically different. These influence the *manas* (mind) in the same way as *tridosha* do. In a normal individual, the *triguna* maintains equilibrium amongst themselves. The predominance of any of the *triguna* decides the quality of the activity of an individual, whereas their imbalance or disharmony causes abnormality. *Satva guna*, being pure, never gets permanently impaired or deranged. But *rajas* and *tamas guna* when increased in varying degrees, alone or together, act as two disturbing elements causing various types of mental abnormalities, according to the Atharva Veda.

Traits of *manasika* (temperamental) types of nature in adults are paraphrased as follows:

Satvika Prakriti

An individual of this temperamental type is truthful, self-controlled, virtuous, kind, forgiving, righteous, mentally and physically pure, theist, intelligent with good memory, studious, genius, empathetic, unperturbed by the good or the bad, sorrows or joys, and likes or dislikes, free from desire, passion, anger, hate, conceit, desirous of doing the right things, fond of music, dignified, attractive and

well-proportioned in appearance, handsome, courageous, energetic, wealthy, luxurious and has all pleasures. Seven types of satvika personalities delineated are: *Brahma, Arsha, Aindra, Yamya, Varuna, Kaubera* and *Gandharva prakritis*.

Rajasika Prakriti

An individual of this type of temperament is valiant, cruel, authoritarian, intimidating, terrifying, ferocious, brave when angry but timid when calm, pitiless, unkind, indulgent in self-adulation, opportunist, envious, impulsive, exaggerated in emotional expressions, speech, behaviour, sorrows or sufferings, sexually overindulgent, unclean in habits, cowardly, excessively somnolent and indolent, seeks luxurious environment, abnormal recreation and food, inordinately fond of flesh, gluttonous, has indiscriminate indulgence in worldly affairs, excessive desires, disinclination for action or work, strongly attached, but unstable in responses. Six types of *rajasika* personalities described are *Asura, Rakshasa, Paishacha, Sarpa, Praitya* and *Shakuna prakriti*s.

Tamasika Prakriti

An individual of this temperamental type has the following disposition: He is non-intellectual, unwise, somnolent, timid. He has non-persistent likes and dislikes, disgusting behaviour and dietary habits, greed for food. Three types of *tamas* personalities described are: *Pashava, Matsya* and *Vanaspatya prakriti*s.

Individuals of the latter two temperamental types are considered mentally imbalanced or unstable. They may not suffer from any specific disease but are susceptible to mental disorders with trivial causes. *Shariraroga* (physical disorders) are the effects of the loss of balance of the *dosha* (three constitutional correlates), whereas *manasaroga* (psychological disorders) are the effect of the loss of balance of the *guna*s (three temperamental traits). Their treatment is through the determination of personality type of every individual. It is, therefore, essential to assess the personality type of the patient before commencing any treatment.

2.1.4 Sapta Dhatu *(Seven Basic Body Tissues)*

Dhatu includes the physical constituents that support, sustain and nourish. They are bound with body organs and hence considered to be structural constituents. *Dhatu* are stable and intact (S.S.). Nutrition is essential for the system and for the structural framework for physiological mechanisms and psychological functions are constituents of *Dhatu.* They remain in equilibrium in a healthy individual in a specific measure. Their imbalance results in various disorders and if ignored or if not remedied, could prove fatal. *Dhatu* are made of *sthayi* (permanent) and *asthayi*

(temporary) constituents. The permanent constituents consist of basic tissues that support the body, provide structural unity and are lasting. The temporary constituents nourish, sustain and maintain the permanent constituents. The *tridosha (kapha, pitta, vata)* influence the constituents through their activities. Disturbance in any one or two of the *tridosha* are manifested in both types of the body constituents and the *dhatu* get impaired. The *dhatu* called *dushya* are those that are prone to getting weak, affected, impaired, corrupted or contaminated at the physical level.

The seven bodily constituents are *rasa* (chyle/a thicker pale yellow fluid, consisting of lymph and finely emulsified fat that is taken up by the tiny lacteal vessels from the small intestines during digestion), *rakta* (blood), *mamsa* (flesh), *medas* (fat), *asthi* (bone), *majja* (bone marrow) and *shukra* (sperm). They have specific functions in the body. *Rasa* nourishes the body, strengthens blood and enlivens the mind. Blood nourishes flesh, gives bright and clear complexion and invigorates life processes. Flesh promotes body strength and nourishes fat tissue. The body unctuousness comes from fat tissue. Steadiness of the limbs, nourishment of the bone tissue and perspiration are caused by it. Support to the body and nourishment to bone marrow is given by the bone tissue. Bone marrow occupies bones, gives body strength, promotes sperms or ova and indirectly interest in life, enhances health and sexual interest, courage in men and *shonita* (menstrual fluid) in women. Specific disorders are the result of increase or decrease in the quantity of each of these constituents. The *upa-dhatu,* the secondary constituents, are the by-products of the seven constituents, namely, breast milk, menstrual blood, tendons, blood vessels, fat, ligaments, teeth, hair and *ojas* (vitality of all functions).

Mala (waste products or excretions) are the by-products of *dhatu.* All the properties of *dhatu* are applicable to *mala.* Excretions in their normal measure are related to normal state of health. Pathological conditions, where there is a change in the volume, colour, compactness, smell, etc. of *mala,* are indicative of disturbances. *Dharaniya vega* and *adharaniya vega* (stagnation of excretions) lead to disorders like constipation and retention of urine. These are treated with cold or hot properties in disturbed states depending on their quantity, location and negative role, to restore the equilibrium of *dhatu.* Clinical examination of stools, urine and sputum are done before arriving at a diagnosis, and prove the importance of *mala* in Ayurveda.

2.1.5 Vyadhi *(Disease) and Its Aetiological Factors*

Vyadhi is a condition that causes discomfort to the body or mind. *Vyadhi* is produced by three factors, namely, *asatmendriyartha-samyoga* (incompatible contact of the sense organs and the sense objects, leading to stressful transaction), *prajnaparadha* (errors of judgement or wilful excesses in conduct) and *parinama* or *kala* (the impact of Stime in terms of seasonal variations and ageing).

The main aetiological factors of a disease are *hina* (inadequate or poor), *mithya* (improper or perverse) and *ati* (excessive) association, contact or union of *kala* (season), *artha* (object of senses) and *karma* (activities or functions).

Disequilibrium of the *dosha*s gives rise to *roga*s (disorders). In these, the disorders included are *nija* (endogenous syndromes arising from the body itself, having internal aetiological factor), *sadhya* (curable) and *asadhya* (incurable) types. They are further subdivided into *susadhya* (easily curable) and *krichra* (curable with difficulty), *yapya* (controllable though persistent) and *anupakarma* (non- responsive to any type of therapy, therefore, fatal).

***Janapadodhvamsa Roga*s (Epidemics)**

This term indicates an overall large spread, global phenomenon of serious, infectious diseases. One of the causes for *janapadodhvamsa* and also other diseases is *kala* or season. Prevention of epidemics is possible through the prevention of *kala-dushana* (seasonal excesses). Season is considered as *parinama* (that which keeps changing) (C.S.), that is, responsible for the qualitative and quantitative changes in objects or living beings. For example, a mango when very small is bitter. As it grows it changes in size, shape and tastes sour. But when it ripens, it tastes sweet. When seasons change in extreme, *dravya*s (drugs) change to toxic materials, causing *roga* (disorder). Variation in seasons is called *dushitakala. Dushitakala* may be due to *hinayoga* (less than normal), *ati yoga* (aggravation) or *mithya yoga* (abnormal or *opposite* nature of the season, e.g. heavy rainfall in summer).[1]

2.2 Treatment of Disorders

Ayurveda is deferred as the holistic knowledge of the harmony of the body, senses, psyche (*sattva)* and soul (spirit). The main medical text, *Charaka Samhita* (C.S.), was originally named *Agnivesha Tantra* (Gopinath 2013). Charaka Samhita consists of eight *sthana*s (sections) and these are:

i. *Sutra* (principles)
ii. *Nidana* (aetiology, symptomatology and pathology)
iii. *Vimana* (standardisation of measures)
iv. *Sharira* (body)
v. *Indriya* (signs of ensuing death)
vi. *Chikitsa* (therapeutics)
vii. *Kapha* (specific formulation)
viii. *Siddhi* (procedures of treatment)

[1]Section 2.1 has been mainly drawn from the author's book (Kapur and Mukundan 2002).

The examination of the patient is through observation, seeing, touch, palpating, body temperature, examination through sound, tongue (often inferred as in the case of diabetes). The six tastes are sweet, sour, salty, bitter, pungent and astringent. Each taste is a composite of two elements. For example sweet is earth + water. In addition, the olfactory sense is also used for diagnosis.

2.2.1 Chikitsa *(Treatment of Disorders)*

Treatment or remedial measure encompasses all those aspects of remedy that are the subject matter of and utilised as a part of treatment from the start for the cure of a disorder. The scope and application of treatment as a means to cure disorders, in Ayurveda, is very vast. The type and the nature of the disorder determines the mode of therapy, the selection and application of which must be done very carefully. Charaka describes three types of treatments, viz., *daiva vyapashraya* (divine therapy), *yukti vyapashraya* (rational therapy) and *satvavajaya* (psychotherapy) (C.S.). The treatment here includes not just drugs, medicines and diet but also non-drug applications like *satvavajaya chikitsa* (psychotherapy). It is interesting to note that right from conception, anything prescribed and advised to the mother for the maintenance of her health and the healthy growth of the foetus is a part of the treatment. Every remedy is not considered a cure because it gives temporary relief and can cause recurrence. On the other hand, *upashaya* (cure) is described as an act of healing, a process or the method of preserving and a step in treating the disease. Continuation of the same remedial drug without a break for a long duration, with additional drugs of the same property, for the maintenance of the state or healing as the next step in treatment, is known as cure. Therefore, treatment encompasses many steps or stages. Drugs that give quick relief can thus be called remedies and not treatments.

Knowledge in the areas essential for treating a person include health, disorders and their symptoms, causes of changes in the human system and diagnosis for determining treatment, and remedies for the disorders. Before commencing any treatment, importance should be given to the type of disorder. It is important to verify whether the disorder is *nija* (endogenous, arising from internal cause like the imbalance or aggravation of *dosha*) or *agantu* (exogenous, caused by trauma or external factors). The *agantuja* types sometimes need urgent medical intervention, which, if not rendered in time, can lead to complications or deterioration in the condition or even death of the patient. These are called the *ashutva* (emergency) disorders. Head trauma, severe bleeding due to accident, sudden environmental changes, injuries caused by foreign bodies like thorns, wooden substances, pointed stones, dust, sand, bones, metals, metallic substances, etc. are examples of this type. *Shalakya* (surgery) is also recommended for some of these conditions. The branch of surgical operations pertaining to acute conditions is termed as *ashu-atyayika* (disorders of emergencies) and Charaka, Sushruta and Vagabhata have discussed these in detail.

Diseases can thus be located in the body and mind. They afflict one or both. Correct diagnosis can be made through an attempt to understand the imbalance that has caused the illness or infection in a particular area. It is advisable to consult a treating physician in case of doubt or chronic symptoms to decide upon correct medication or other types of therapeutic interventions.

Certain diseases, generally *vata vikara* (type of disorders), manifest themselves immediately after premonitory symptoms like *apasmara* (epilepsy), whereas the ones which are slow in their formation are grouped as *manda vikara*. Neglect of an insignificant condition or its wrong or ineffective medication leads to a third group of disorders in which the disease grows rapidly, worsens the condition of the patient and manifests abruptly. For example *pratishyaya* (coryza) can get converted into *kasa* (cough) to further worsen as *shvasa* (disorders of breathing).

There are six stages in every disease before its final manifestation (S.S.). Sushruta advises adequate precautionary measures, care and treatment at the first stage of a disease. Administration of improper or lack of treatment at this stage can lead the disease to enter the second stage and then the next, complicating the signs and symptoms, causing distress and endangering the life of a patient. This needs immediate treatment. Any mode of therapeutic intervention that provokes, aggravates or creates another disease is not the right intervention. Right treatment should cure the disease completely without creating a new one. This is similar to the principles of Hippocrates in Western medicine, 'First, do no harm'. *Tiryak gata* (certain types of disorders) should not be given *ashukari chikitsa* (instant and fast-acting, 'quick relief' treatment) as it may prove to be non-conducive to the patient and cause harm. In *agantu vyadhi* (exogenous disorders) like wounds caused by sudden physical trauma, fevers and poisoning, instant acting treatment is essential. Sushruta recommends surgery in the management of certain exogenous disorders.

Fast-Acting Drugs in Ayurveda

Ayurveda advocates using the drug in 'whole' state in its natural integrity and design, as it consists of certain 'balancing agents' that channel and control the bioavailability and the action of the active ingredients. Human body identifies the 'whole' drug in natural state as 'self', hence it is neither rejected nor does it produce negative effects. The demerit of 'whole' drug is its slow absorption as it is crude in form, which makes it necessary to introduce it through gastric routes only. It takes due time to produce its effects on the human body. Hence, the necessity for fast-acting drugs.

Some of the fast-acting drugs may be self-prepared, which are simpler and act promptly. The form of preparation influences the rate of absorption of a self-prepared, fast-acting drug. Liquid preparations act faster than solid ones. For example, the water-soluble and transformed (*paka*) content of *kashaya* (decoction) is readily absorbed into the system. *Kshara* (alkalis) and *lavana* (salts) are other examples. Other preparations absorbed rapidly are through *ghritam* (medicated clarified butter). *Taila* (medicated oils) are also prescribed though less frequently.

Chewable forms like thick extracts of plants with sugar and syrups act fast as they have an access to direct circulation and are absorbed prior to gut absorption. These are better utilised in respiratory disorders. Preparations in alcohol form, viz., *asava* and *arishta* are absorbed rapidly. *Madyam* (alcoholic beverages) have a specific property, *vyavayi*, that enters general circulation. Drugs that have *tikshna* (irritant) and *sukshma* (fine) properties are absorbed rapidly. To acquire efficacy, certain *samskara* (processes) are necessary. These properties are then attributed to the drug, for example grains popped into *laja* (or popcorn) acquire light and fine properties. *Shaktu panam* (a drink prepared) of popcorn gives instant energy.

Vehicles for the administration of drugs and acquisition of faster actions are known as *anupana.* They are *madhu* (honey), *sarkara* (sugar), *madyam* (alcohol) and *visham* (poison). Of these, only honey and sugar are used for infants and children.

Routes for administration of drugs are many, with oral being the major one in Ayurveda. This route has the disadvantage of slow absorption as it has to go through the digestive system. To promote the rate of absorption and rate of action, other suitable routes in accordance with the site of the disease are selected. For example, after fomentation, local application of a hot poultice or a rubefacient or counterirritant ointment or oil may provide a faster relief for an inflamed joint as compared to the oral administration of a drug. Another important route for faster action is through the nose for various disorders. Inhalations through nose are absorbed quickly through lungs into systemic circulation. *Basti* (enema) also provides fast absorption through rectum and quicker results.

Time of Administration of Drugs

In acute states of disorders where instant relief is desired, Charaka advises frequent administration of medicine in small doses. Drugs that penetrate deeper tissues or have specific affinity with particular tissues in the body should be selected. They prove to be more effective in disorders caused by derangement of specific pathogenic tissues. Hence, the need for accurate diagnosis of disorder and its stage of pathology. These drugs enhance or reduce the existing rate of body functions. The speed of body functions is dependent on the natural rhythm and the speed of the human body. Since stretching beyond the capacity of the body is not advisable, *kshara* (alkalis) and *visha* (poisons) are not recommended for prolonged use.

Ayurvedic approach teaches not just to avoid disease but to proactively develop and maintain a healthy state by simple *dinacharya adhaya* (daily regimen) (VV). This is applicable to children above three years of age.

Vyayama (exercise) should be avoided by those who have *vata* and *pitta* disorders, indigestion, by children and the aged. *Udvartana* (massage) for children is only a light massage. *Abhyanga* is a process where oil made from vegetable seeds or sesame is rubbed on the whole body, especially the head before taking a hot water bath. The oil has a beneficial influence on the whole system through *shrota* (internal channels). The oil is first applied to the head and later to the whole

body. Massage should be practised daily as it prevents ageing, relieves weakness, promotes good vision, increases body physique or growth, longevity, good sleep, colour and complexion and smoothness to skin and the body becomes strong. It should not be practised during indigestion, just after meals and when one has *kapha roga* like asthma and cough.

Ayurveda recommends a daily bath in the morning. It cleanses the body, clears the skin of dirt and itches, reduces heat in the body, relieves drowsiness, fatigue, thirst and inflammation, lowers the effect of *visha* (toxins), and is helpful in reduction of body fat. It is also considered important in the improvement of eyesight. Besides its hygienic virtue, the other virtues of bathing are that it gives strength, increases appetite, invigorates digestive process, nourishes body, enhances lifespan, *ojas* (vitality) and semen and cheers the mind. Bathing implies bathing over the head. Different temperatures of water used for bath are said to have different effects on the body. Cold water is generally recommended, however, *koshna* (tepid) water may be used in winter and spring. Habitual bathing in hot water is considered bad for the eyes but after physical strain hot water is considered advantageous. Tepid water bath is beneficial for the *tridosha*s. It pacifies the *dhatu*s. Bathing with very hot water aggravates *pitta* and this results in the impairment of health, hence is considered harmful. Cold water bath is recommended for those who suffer from biliousness, burning sensation, vertigo, fainting spells, toxic states, blood impurities, hemoptysis, oedema, putrefaction of food in the abdomen without digestion, parching of mouth and throat and hangover caused by excessive intake of alcoholic beverages. Cold water bath must be taken only in the morning. It corrects disturbances caused by *vata* and *kapha.* Head bath or oil bath is contraindicated in disorders caused by the aggravation of *kapha*, fever, indigestion, constipation, chronic diarrhoea, dysentery, loss of consciousness, consumption, asthma and disorders of head, eyes, ears or nose.

Panchakarma (five procedures) are processes of periodical cleansing and conditioning of the body, as the pre-therapeutic measure in most disorders along with *rasayana* (rejuvenation) and *vajikarana* (aphrodisiac) therapies. *Panchakarma* for every season are recommended. The six seasons have an impact on the physiological and metabolic activities of the body. Even slight negligence can create seasonal disorders. To avoid the disorders, *panchakarma* is recommended in the mid-period of spring, monsoon and autumn seasons. The six seasons are *vasanta ritu* (spring) from 16 March to 15 May, *grishma ritu* (summer) from 16 May to 15 July, *varsha ritu* (monsoon) from 16 July to 15 September, *sharada ritu* (autumn) from 16 September to 15 November, and *hemanta ritu* and *shishira ritu* (late autumn and winter) from 16 November to 15 March. Treatment methods vary for persons with disorders. *Panchakarma* is done as a part of the daily regimen. *Snehana* (oleation) and *svedana* (fomentation) are preparatory process for other therapies.

The *Panchakarmas* are:

- *Vamana* (emesis): At the end of oleation and sudation therapies, emetics may be administered.
- *Virechana* (purgation therapy): This too may be done at the end of oleation and sudation. Emesis and purgation therapies vary according to the individual requirement.
- *Basti* (enema): *Sneha* (oil) and *niruha* (medicated) and these two are administered alternatively with oil enema preceding the *niruha* enema.
- *Nasya karma*: Local nasal oleation and sudation is followed by inhalation of prescribed medicine.
- *Raktamokshana* (purification of blood).

There are indications and contraindications for the use of every procedure in different disorders. The discriminative use of each depends upon ten conditions that are prerequisites of treatment. Of these, only purgation therapy in a mild form is done for children.

To summarise the key concepts, the three constituents are *vata, pitta* and *kapha.* These have been interpreted differently amongst the Ayurveda scholars as well as in the other systems such as Siddha, Unani and Tibetan medicine. These states control the functions of the biological parameters, metabolic activity and preservative functions. These are derived from the five elements, namely, the *panchamahabhutas. Vata* is the dynamic principle which governs the utilisation of energy by the various cells and organs for their anabolic (energy producing) and catabolic (energy destroying) activities. It also controls the movements of *pitta* and *kapha*, thus regulating all the functions and activities of the body. The mood states, breathing (inspiration and expiration), voluntary actions such as talking and walking, circulations of fluids in the body, excretion of waste products from the body are attributed to *vata* (C.S.). *Pitta* represents *tejas* (fire) and produces physical and mental processes that are *satvik* in nature. In its ambit come the functions of vision, digestion, heat production, hunger, thirst, softness and suppleness of the body, cheerfulness and intelligence. *Kapha* constitutes the cellular and intracellular structure of the body and maintains the internal environment. Maintenance of smooth working joints, integration of structure of the body along with mental processes of courage, vitality, knowledge, etc. While the *tridhatu/tridosha* is predominantly physiological, the *triguna* construct highlights the psychological constituents of *rajas, satva* and *tamas* traits. The *dosha*s are called *dhatu*s within their normal limits while in their vitiated conditions lead to symptoms of pains, inflammation, etc. Waste products such as perspiration, faeces and urine are called *mala*s. The harmonious functioning of the *dhatu*s leads to health, while disharmony leads to ill health. Disharmony is caused by unwholesome diet and undesirable conduct. Maintaining harmony and balance is the key to health according to Ayurveda. The above *tridhatu* and *triguna* are mainly the physiological and psychological constituents that determine the person's constitution or *prakriti.* As

the diseases are manifestation of combinations and predominance of the physical and psychological triads, no disease can be considered purely physical or psychological.

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Indriya–Sthana	C.S. V
Cikitsa–Sthana	C.S. VI
Kalpa–Sthana	C.S. VII
Siddhi–Sthana	C.S. VIII
Kashyapa Samhita	K.S.
Sushruta Samhita	S.S.
Sutra–Sthana	S.S. I
Nidana–Sthana	S.S. II
Sarira–Sthana	S.S. III
Cikitsa–Sthana	S.S. IV
Kalpa–Sthana	S.S. V
Uttara–Tantra	S.S. VI
Ashtanga Hridaya	A.H.
Vriddha Vagabhata (Elder)	V.V.
Vriddha Vagabhata (Younger)	V.
Sutra–Sthana	V.V. I
Sarira–Sthana	V.V. II
Nidana–Sthana	V.V. III
Cikitsa–Sthana	V.V. IV
Kalpa (Siddhi)–Sthana	V.V. V
Uttara–Tantra	V.V. VI

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Chapter 3
Developmental Approach to Childcare

3.1 Concept of Child Health in Ancient India

Ayurveda indicates an idealistic view about procreation of the species and progeny. Among the natural urges, sexual indulgence is considered important for having healthy progeny and not for enjoyment in life. Therefore, restriction for and curbing the proneness for its overindulgence is recommended. The *Sushruta Samhita* (S.S.) stresses that children should be produced not by accident but by conscious effort. Sushruta suggests certain regulations for men and women desiring progeny, comprising the cleansing of the system, dietary regimes, spiritual practices and adherence to celibacy depending on one's habits. These are recommended as a part of therapeutics to make one suitable for bearing children, for the care of the psychological state of the woman before and after conception till the birth of the child, and for the following of *shodasha* (16) *samskara*s. After delivery, a specific regime is recommended for each month for the mother and the baby.

The formation of *prakriti* (constitution or personality): Physical states like reproductive elements, psychological states of the parents and prenatal influences through food habits and the temperament of the mother influence the formation of *prakriti* (personality) of a child. The constitution of the child is determined during the formation of a foetus by the moderate or excess of one or two of the *dosha* (elements) and the genetic factors in the parents. An inadequate growth or the malformation of the embryo is attributed to an imbalance in the *dosha* (constitutional traits) or *guna* (temperamental traits) of the parents. The acquired constitution remains unchanged during the life span of a living being and any change is

Translations of *Sushruta*, *Charaka* and *Kashyapa Samhita* have been derived from Lakshmipathi and Subba Rao (1955), Kumar (1999), Bhattacharya (1956), Singhal and Guru (1973), Sharma and Bishajacharya (1953), Sharma (1983), Tewari (2002), along with Kapur and Mukundan (2002).

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indicative of its death. *Manasika lakshana* (temperamental traits) of *dosha prakriti* is also acquired during the formation of the foetus.

3.2 Childcare System

3.2.1 Qualities of the Physician

The physician should be well taught, having received judiciously the knowledge derived from sages, having scientific aptitude; having observed the act (of treatment) several times, possessing the knowledge of effective formulation, expert, skilful, clean, soberly dressed, having brotherly feeling for all creatures, successful, examines (the patients) for virtue and charity; devoted to truth, compassion, donation and modesty; worships and follows divine power, Brahmins, teachers and other experienced (persons); expert in treating one by one the complications arising out of the disease, serves teacher and old persons; is devoted to justice; free from fear, greed, infatuation, anger and falsehood, not doing back-biting and not greedy for wine; has good face (cheerful personality) and is free from addictions. The *Kashyapa Samhita* gives detailed accounts of the qualities of a physician.

There are three developmental stages:

1. *Garbhastham* (foetal stage), which is divided into 10 stages from the first to the 10th month.
2. *Balyam* (infancy and early childhood), which consists of *ksheerapaka* (only milk drinking) up to 1 year and *ksheeraannadah* (milk and solid intake)—up to 2 years.
3. *Kaumaram* (eats largely solids), up to 16 years.

3.2.2 Embryology

The *prana* (life) definitely divides the *bija dhatu* (zygote) according to number (system) of the bones. The seed immediately after entry is enveloped by *rakta.* From *sukra* (sperm) are derived bones, from the bones the *mamsa* (flesh) and from both these *snayu*s (tendons) as well as major and minor body parts emerge along with all *indriya*s (sense organs) of the foetus.

The description of the division of *bija dhatu* according to the skeletal system given by Kashyapa has not been accepted by any other author. The head of sperm penetrates the ovum, the tail gradually gets absorbed, and thus the situation arises when the sperm is totally enveloped by ovum, which has been described here as the seed being enveloped by *rakta.* It is the *sukra* which brings the paternal factors to the zygote from which bones and tendons are derived.

In the foetus, the flesh develops from maternal component. All major and minor parts of the body develop from six factors, i.e. mother, father, *satmya* (congenials), *rasa* (nutrient), *satva* (psyche) and *atma* (self) due to action of the *panchamahabhuta*s, namely, *vayu, tejas, ap, prithvi* and *akasha.* These together cause division, metabolism, moistening, solidification and increase in size, respectively.

3.2.3 Development of the Foetus According to the Charaka Samhita

In the 3rd month, formation of the head takes place and along with it comes the perception of pleasure and pain. In the 4th month emerges the consciousness. It is believed that the foetus is endowed with mind (*manas*) and wakes up from sleep (or subconscious state) in the 5th month. In the 6th month, there is the dawn of cognition. The 8th month is considered critical as the total energy (*ojas*) is in a flux, for both the mother and the child, oscillating between joy and sorrow (C.S.).

There are three rituals before the baby is born. The ritual or the *samskara* carried out at the point of conception is called *garbhadharana*. There are two rituals during pregnancy: at the third or 4th month it is called *pumsavana* (related to the birth of a son) and in the 7th month called *simantonnayana* (parting of hair). To sum up, during pregnancy, the psychological and physical wellbeing of the woman is of utmost importance for the birth of a healthy baby. Healthy practices recommended are: scrupulous maintaining of cleanliness, right diet and stable emotional state.

Foetal Development

In the 3rd month (all body parts) manifest simultaneously in due order, the foetus quivers, achieves consciousness and feels pleasure and pain. In the 3rd month, the senses (*indriya*s) have subtle manifestation and the mind has stronger manifestation. In the 4th month, the foetus gets stability and becomes free from abnormalities. This is why the pregnant woman feels heaviness of the body. In 5th month, there is more increase in flesh and blood (of the foetus); this is why the pregnant woman becomes emaciated.

In the 6th month (in foetus), there is increase in strength, complexion and *ojas* (vital power); and the mother has more exhaustion. In the 7th month, the foetus becomes complete in respects of all *dhatu*s and body parts along with optimum levels of *vata, pitta* and *kapha*: thus the woman always feels tired. In the 8th month, the foetus (due to maturity as well as being connected with *rasa*-carrying channels) and the pregnant woman exchange the *ojas* (vital power) with each other and the foetus deceives also (due to transfer of *ojas* from foetus to mother, the foetus may cause confusion as if being dead and then again alive). For this reason, the pregnant woman is seized repeatedly with happiness and languor, thus this month

is not counted appropriate for birthing. The birth occurs after the 9th month in due order. The foetus remembers all deeds of previous life as well as sorrow and happiness of intra-uterine life only till he is born.

Childcare in ancient India started not just from the point of birth but from the point of conception. It also includes dietary and other austerities practised by the partners a month prior to the sexual intercourse. According to the *Kashyapa Samhita*, as the child is a part of the mother's body, the care of the infant extends to the care of the mother. In a pregnant woman, nutrition is necessary not only for her own nourishment, but also for lactation and growth of the foetus.

Conception of a baby under ideal conditions is comparable to that of a healthy plant as described in the ancient texts. A combination of four factors, i.e. proper season (*ritu*), good soil (*kshetra*), vigourous seeds (*bija* from semen and ovum) and nutrients (*ambu*) are essential. Ideal conditions for conception of a healthy infant have been meticulously described. A glimpse of the same is offered below.

One month prior to and during 3 days of menstruation, the couple should refrain from sexual contact. The woman should observe other austerities in her diet and daily activities. On the fourth day the couple should bathe, wear white clothes and have special diets. The man should have ghee (clarified butter), milk and drugs of the 'sweet' group while the woman should have oil and black gram. Having intercourse on even days leads to the birth of a boy and on odd days of a girl. Sexual union should take place in a joyous atmosphere. *Sushruta Samhita* (S.S.) has even recommended a special concoction to facilitate the birth of a boy.

At the point of conception, the psychological and physical endowments of the infant are determined. The major contributors are the physical and psychological traits of parents, and the past actions and traits in the past births of the infant yet unborn.

Ayurveda recognises three intrinsic properties of the mind and the matter and these have a common origin. *Satva* is pure and altruistic. *Rajas* and *tamas* are *dosha*s and cause pathologies. These are constitutional factors. Ayurveda attempts to correct the 'seed' by prescribing dietary and exercise regimens. The aim is to produce a balanced *triguna* (temperament) with predominance of *satvik* disposition.

There are numerous practices that are prohibited from the time of conception and throughout pregnancy and the reasons for them are given. Sexual intercourse is prohibited from the 13th day till the next menstrual period. (This is contrary to current medical information that ovulation occurs on the 14th day of a 28-day cycle). Conception in a woman who is very young or very old is detrimental to the health of the infant.

The behaviour and emotions of the expectant mother are of great significance to the health of the baby yet to be born. The woman on the fourth day of menstruation, after ablution should first look at only her husband or the sun in his absence. During pregnancy, she should witness happy events, gracious people and people whose physical or psychological characteristics are desirable to be imbibed by the baby in the womb. Even thinking of the good qualities of people by the expectant mother would enable the baby to acquire them.

The pregnant woman should keep herself clean, wear clean white garments and should not come into contact with unclean or maimed persons. She should eat healthy, wholesome, fresh food, milk, ghee, etc. Each month, recommended diets and drugs are to be taken. She should avoid heavy physical labour, tiring journey, sitting on her haunches, fasting, sexual intercourse, poor sleep and fearful situations. She should be happy and cheerful, perform benedictory rites and offer prayers. She should avoid negative emotions such as fear and anger. She should not sleep on her back.

3.3 Diet of the Expectant Mother

Excessive indulgences influence the foetus in an adverse manner. For example:

- A woman who is addicted to sweet food will have a child who has diabetes (*prameha*), is mute or obese.
- A woman who is addicted to sour food will have a child prone to wrinkles, white hair or baldness.
- A woman who is addicted to salty food, will have a child with propensity to early ageing and baldness.
- A woman addicted to pungent food will have a child who is weak and may not be able to get an offspring.
- A woman addicted to bitter food will have a child who may have weakness or consumption (tuberculosis).
- A woman who is addicted to astringent food will have child who has suppression of urine and stools.

In short, addiction in the expectant mother of excessive intake of any particular food will result in health problems in the child.

Erratic behaviour of the expectant mother will result in disturbances in the child. For example:

- The woman who sleeps in the open or is habituated to night walking will have an insane child.
- A woman who is a 'shrew' will have an epileptic child.
- A sexually overindulgent woman will have an effeminate child.

3.4 The Emotional State of the Expectant Mother

The desires of the expectant mother should be fulfilled. However, if they are harmful, they will in turn harm the child. A variety of deformities, disabilities and illnesses are attributed to not observing austerities, having proper diet and carrying out the right rituals, behaviour and attitudes.

3.5 Care of the Newborn Infant

The care of the newborn infant includes feeding, bathing, clothing, maintenance of the body temperature and protection from infections. The lying-in room should be pleasant, spacious, well ventilated, protected from wind and free of pests. It should have facility for storing water, and kept comfortable in all seasons. Mattress, sheets and covers must be clean, light, fragrant and should be changed, washed and fumigated.

The newborn has a thin mucous-like coating all over the body. It can be cleaned with a mixture of *saindhava* (common) salt and ghee. The newborn is fatigued during the process of birth. To relieve the fatigue *bala taila* (oil suitable for babies) should be applied all over the body.

Sounds should be produced using small stones close to both the ears to activate the organs of hearing. After this, the following sacred verses should be chanted in his right ear by the father. The verses read as follows:

> You have been born in this form as son of my soul, of each organ of my body and mind (heart) and from these your body and mind has been formed. May you have a long life span of hundred years. May the stars, the ten directions, nights and days protect you.

After the baby has recovered sufficiently, the umbilical cord must be tied and cut with a clean and sharp edged knife made of gold, silver or steel, at the distance of four fingers from the navel. The thread should be loosely draped around the neck, to prevent bleeding. The umbilicus should be coated with *taila* (oil).

Eye infections (*kukunakam*) causing itching and lacrimation (tears) are quite common in newborns.

3.5.1 Bath

Afterwards, the infant should be given a bath. The bath water should be either steeped with fragrant drugs or decoction of bark of trees with milk sap and heated with hot silver or gold rods to bring it to the right temperature. The water is to be medicated according to *pitta* and *vata dosha*s of the baby. Bath should be given at the right time, after due consideration of the *dosha*s and *bala* (strength) of the baby. The predominant *dosha* in childhood is *kapha.*

3.5.2 Cleaning of Oral Cavity

The physician cleans the palate, lips, throat and tongue, with the index finger of his right hand. He has to elevate the palate. He has to place a piece of cloth soaked in *bala* oil over the fontanelle.

3.5.3 Removal of Amniotic Fluid

The infant is made to lick ghee mixed with *saindhava* salt, so that the amniotic fluid swallowed by the infant may be vomited.

3.6 Feeding

The infant should be made to suck the following preparations to promote development of intelligence, longevity and physical strength. These concoctions are made with a paste of *vacha, brahmi* (*aindri*), *shankhapushpi* (sweet flag, Indian pennywort and blue pea), and mixed with honey and ghee, or finely ground gold, finely powdered *haritaki* (*T. chebula*) mixed with honey and ghee; or ground gold powder and *amalaki* (Indian gooseberry) mixed with honey and ghee. The procedure followed is that the caretaker must sit facing east and grind the gold on a stone and mix it with ghee and milk and make the baby suck it. This ritual is called 'feeding the gold'. If the baby is fed on the concoction with gold of 1 mg for a month, he will become very intelligent, if fed for 6 months he will become a scholar, and if fed on four kinds of ghee he will not have any illnesses. Even those infants who are deaf and mute or crippled will benefit from the above and function normally. (It is to be noted that in the current paediatric practice honey is not recommended in the first year of life because of risk of botulism).

3.6.1 Normal Feeding

The nursing mother, especially with the first baby, will produce breast milk only on the third and fourth day of the infants' birth. This is due to the changes in the circulation to the heart. On the first day, the baby should be made to lick the juice of *ananta* (*sarsaparilla*) mixed with ghee and honey, along with the chants of sacred hymns, three times a day. The baby should be given the ghee made from *lakshmana* (forget-me-not) on the second and third day, three times a day. On the fourth day the infant should be made to suck on fresh butter, exactly the amount that can fit in the infant's palm. After that the nursing mother should express the breast milk to ground and put the baby on the right breast to suckle. Breast milk was considered the most important diet for the baby. In the event, if the mother did not have breast milk, traditionally wet nurses were hired. The ancient texts have given vast amount of descriptions about the physical and mental characteristics of the nursing mother or the wet nurse. (The value of the fore milk of colostrum was not known or emphasised.)

The infants must be fed on breast milk as it promotes healthy growth. The wet nurse who feeds the infant should have the following characteristics:

She should be fond of babies. She should have no physical deformities. She should not be sexually active. She should be of the same caste and constitution as that of the mother. She should have live children of her own. She should belong to good family and should not indulge in bad actions or inferior deeds. She should not indulge in food fads and should have healthy food habits. She should be middle aged, neither too tall nor too short, neither too fat nor too thin. She should be healthy. She should be a person of good character and emotionally stable. She should not have breasts which are placed too high or distended, as they are likely to make it hard for the infant to feed or may cause suffocation. She should have abundant supply of milk. She should preferably be dark complexioned. In short, she should be flawless.

On an auspicious day and time, the child should be bathed and dressed in new clothes. The nursing mother should sit, facing east, take the baby on the lap, wash the right breast express milk on the ground so that hard breast does not cause cough and breathlessness in the infant and start feeding the baby. At this time, the following verses may be chanted.

> Oh good lady, may the gods of four seas fill your breasts with milk to enable the baby to grow strong. May your milk be like ambrosia granting eternal life to this infant as the divine nectar has been to the Gods. May it enhance the life span of the baby.

Reasons for Reduction of Breast Milk

If the nursing mother is depressed, anxious, angry, hungry, tired or is without affection for the baby, or has had fermented sugar cane juice (rum/liquor) or has eaten bad food or has a poor life style, it may lead to poor milk production.

Description of Pure Milk

Pure milk dissolves completely in water, does not produce foam or is not stringy in appearance. It neither floats nor settles down in water. It is cold, thin and has the colour of conch shell. Such milk promotes growth of the baby. It indicates mother's good health. Milk has been considered the by-product of *rasa dhatu*. During the pregnancy, good nutrition for the expectant mother and the foetus, helps formation of the milk.

Enhancement of Milk Production

Milk production is stimulated by the body touch of the infant, looking at and keeping the baby on the lap and touching of the breast by the baby. The most important cause is the mother's happy mental state and affection for the baby. In addition, the breast milk can be increased by the following:

(i) Diet for the Nursing Mother
All wines except *sidhu*, vegetables, cereals, milk of wild animals, *sali* and *shashtika* (rice grown in 60 days) variety of rice, barley, wheat, meat stock, vegetable stock, crushed *tila* (sesame), garlic, onion and fish should be included in the daily meals.
(ii) Drugs and Tonics
Liquids and drugs with sweet, sour or salty properties are recommended. Rice cooked with decoction of latex-bearing barks and roots of various medicinal plants are recommended; *padmakadi ghana* and *jivaniya ghana* are drugs of choice.
(iii) Mother's Psychological State
Most importantly, cheerful mood of the nursing mother is considered very essential for a good supply of milk. In the absence of breast milk, the recommended alternative is milk of goats, which is similar to breast milk. Cow's milk is the next option.

3.7 Physical Care of the Infant

The baby should not be lifted in a manner which causes discomfort. Sudden lifting and putting down may lead to arthritis later. Forcibly making the child sit before he is ready may cause hunched back. Baby should be protected from hot sun, thunder and lightning. Baby should not be laid under the trees, in shade, under the creepers or in the trenches. Unoccupied houses, dirty places, unsafe places, places exposed to direct sun light, breeze, smoke or water should be avoided. One should not throw clothes on or use rough fabrics on the baby. Infants should not be allowed to jump and fall off the lap and so should be held firmly.

3.7.1 Psychological Care of the Infant

One must not frighten the baby or suddenly awaken the baby. Care should be taken to utter loving and soft spoken words. One should keep lot of toys in front of the baby. One must see to it that the baby's body is not hurt. If the child does not listen to the elders, he should not be threatened. If the child is found to be weeping, refusing his meals or difficult to manage, it is not right to speak of goblins or ghosts to frighten him into obedience. Fearful children are easy targets to seizure by the *graha*s (demonic forces).

3.7.2 Importance of Play

There is evidence that there was recognition of importance of toys in the child's life. These toys were introduced in the 6th month as a ritual when the infant is able to

sit (*upaveshana*) on an auspicious day. The first toys offered were different animals made of dough of cereal flour, curds, ghee and honey. The first toy picked up by the child was supposed to predict his future proclivities and interests. Later on, safe toys made of cotton, wool and wood were introduced. Pull carts were popular. Even safe place for play, sprinkled with medicated water, was recommended. Charaka (C.S.) recommended that the toys should be of different shapes, colours, must be beautiful and produce pleasant sounds. They should not be too heavy or too small lest they are swallowed or put into noses. They should not have sharp edges. They should not provoke fear. It is recommended that the play ground should be free from stones, sand and weapons. It should be under the shade of a neem tree and be naturally sprinkled by the rain water which first falls on the neem tree. After the age of 10 or 12 months after *annaprashana,* the child may be encouraged to play with other children.

3.8 Teething

Of the 32 teeth of human beings eight are permanent. The rest are called 'twice born'. The teeth come out exactly in the number of days according to the age in number of months. In the same year, they fall off and new ones replace them (for example, at 6 months, the teeth come out in 6 days, and the teeth which came out in the 6th month would fall off at 6 years). The front upper teeth are called 'king's teeth'. As they are unclean when they come out, a ritual of *shraddha* (cleansing) should be carried out. On either side are teeth called *vasta* and next are the canines. The rest are set on the jaws. Similar pattern are seen on the lower gums. In girls, there are holes inside the teeth hence they come out easily. Boys do not have such holes inside the teeth and so the teeth are very strong. This causes a lot of pain when they come out. In some babies, teeth may come out in 4 months. Some may have teeth before birth and this is considered very inauspicious and harmful to the parents. In some children the top front teeth come out first. If the teeth are widely spaced, short, thick, crooked, discoloured or cracked, it is considered inauspicious. Hence, rituals to offset such bad effects should be conducted.

Four kinds of teeth and their nature

Tight-fitting	Gets weak over time
Crowded	Leads to accumulation of plaque: unhealthy
Spaced	Leads to dropping off early, discolouration and pain
Complete	Straight, thick, white, shining, smooth, without plaque or caries, gums which are red and oily at the base

3.8.1 Time of Teeth Eruption and Prediction

Teeth which come out during the 4th month are weak and lead to illness. Teeth which come out at 5th month are shaky and disease prone. Teeth which come out

at 6th month are discoloured and shaped like 'flies'. Teeth which come out at 7th month are split and cracked and are likely to protrude. Teeth which come out during the 8th month are healthy.

*3.8.2 Disorders of Dentition (***Dantodbheda Roga***)*

At the time of teething, children suffer from different kinds of disorders such as fever, diarrhoea, bronchitis, vomiting, headache, conjunctivitis, trachoma, asthma, thirst, delirium, dysentery and erysipelas. In short, there is no symptom which may not occur at the time of teething. In a similar manner, when the teeth fall off and new ones erupt, there may be some problems. To paraphrase the ancient texts, when the backbone of the kitten bends, when the peacock gets his crest and the young children have eruption of teeth, they will suffer a great deal of discomfort all over their bodies. As these symptoms remit naturally, treatments are generally not required.

3.8.3 The Rites of Passage and Rituals

There are seven rites of passage or *samskara*s in childhood. These have been mentioned in the previous chapter and are elaborated here. These are *jatakarma* (ceremony at birth), *namakarana* (naming ceremony), *nishkramana* (outing ceremony), *annaprashana* (feeding of solid food), *chudakarana* (shaving of head), *karnavedhana* (piercing the ears) and *upanayana* (sacred thread ceremony). The ceremonies of naming, feeding the cereals and piercing the ears are common to boys and girls. The texts do not mention girls in connection with rest of the rites.

1. ***Jatakarma* (Ceremony at birth)**
   The father feeds the newborn with a small quantity of gold dust with honey and ghee, in order to promote intelligence. He chants some verses praying for the long life of the infant. Another method is to invite five Brahmins to breathe upon the baby, which is claimed to strengthen the breathing of the child and to promote longevity. The father chants a verse praying that his son must be strong like a stone, an oxen and imperishable like gold and that he may live one hundred years. At this juncture, the newborn is made to lick the gold, honey and ghee mixture. This also apparently, enables the physician to observe rooting, sucking and swallowing reflexes of the newborn.
2. ***Namakarana* (Naming ceremony)**
   On the 11th day (it may also be on the 100th day or at one year), the mother should be brought out of the labour room and given the auspicious bath with water boiled with leaves of mango, lemon and neem which is at a comfortable temperature. The baby should be bathed as described earlier. The baby's

forehead, cheeks and palms are to be decorated with red sandalwood paste. The baby is then bathed and dressed in new clothes. At an auspicious time, the parents should take the baby in their laps. The baby may be named after the grandparents, stars under which they are born or after the gods. After the ceremony, the physician should carefully examine the baby.

3. ***Nishkramana*** **(Outing ceremony)**
   As described in the *Grahyasutra,* the child is taken outdoors by the father, chanting the verse 'the eye' and is made to look at the sun. Though some texts recommend the 12th day for the ceremony, most Ayurvedic texts recommend the 4th month to conduct the ceremony. A further elaboration is that the baby may be taken out to look at the sun in the 3rd month and moon in the 4th month. The child is bathed and dressed and made to lie down on purified ground where the sun can be seen. He is then taken to the temple accompanied by chants of hymns and blowing of conchshells and chiming of temple bells. The child may thus be observed to respond to bright light, and turn towards sounds. This will permit the physician to examine the baby's vision and hearing.
4. ***Annaprashana*** **(Feeding of solids)**
   This is a very important stage in the baby's life. The child is fed only with milk before this ceremony. References to this ritual dates back to Vedic times. The ceremony is performed at the fifth or the 6th month. According to some texts, fruit juices (*phalaprashana*) may be given at the 6th month and cereals (*annaprashana*) at the 10th month. Ritually prepared food is given to the baby during both the ceremonies. Both ceremonies include propitiation of Brahmins and gods, chanting of sacred verses and offering of specially made toys.
   The simple principle followed is that mixed tastes and flavours should be chosen. Rice and other rice products are recommended with ghee and curds. Sweetened mixtures of cereals and unripened fruits are recommended.
   At this point, the mother is advised to discourage the child from breastfeeding to complete the weaning process. It is indeed amusing to read that the mother is advised to paint her breasts with frightening motifs to discourage the child from seeking the breasts! As the baby starts to enjoy solids, he/she will lose interest in drinking milk. Several *leha*s are recommended as supplements to the diet, to enhance intelligence, memory, strength and general health and to improve the achievement of the various milestones.
5. ***Chudakarana*** **(Shaving of the head)**
   The tonsure ceremony should be performed at the end of first year and before the completion of the third year. The ceremony provides a chance to examine the anterior fontanelle which should close by two years.
6. ***Karnavedhana*** **(Piercing the ears)**
   Piercing of the ears may be carried out at the sixth, seventh or the 8th months. The ceremony should be conducted when the baby is in good health on an auspicious day, preferably in the winter months. The child should be comfortably settled on the mother's lap and entertained. The physician with his right hand would hold the needle with a thread dipped in hot wax, pierce the ear holding

Table 3.1 Various childhood samskaras and their importance as milestones of development

No.	*Samskara*	Age of the child	Assessment
1.	*Jatakarma*	After birth	Rooting and sucking reflex
2.	*Namakarana*	10th day or 12th day or 100th day	Appropriate period for general examination of infants
3.	*Niskramana*	4th month	(i) Macular fixation and papillary adjustment (ii) Reaction to sound (iii) Head control
4.	*Annaprashana*	6th month	(i) Appearance of first tooth (ii) Functioning of digestive system (iii) Proper time for weaning
5.	*Chudakarana*	1–3 years	Examination and care of anterior fontanelle
6.	*Karnavedhana*	6–8 months	A type of active immunisation *(yukti krtabala)* initiated with External trauma
7.	*Upanayana*	6–8 years	(i) Fit for education (ii) Assessment of intellect

Source Kumar (1999)

it with the left hand. For a baby boy, it should be done in the right ear first and for a girl in the left ear first. The baby should be facing the sun so that the natural hole in the ear lobe is clearly visible. It should be marked with wax before piercing. The piercing should be done in one attempt in the natural hole. It should not be done above or below. If any place other than the natural hole is pierced, it may lead to reddening of the skin, pain, swelling, burning, twisting of the neck. The child may also become fearful.

After the piercing, the thread should be tied skilfully outside the ear lobe. If the ear lobes are thick, the holes may be gradually enlarged using larger pins and thicker thread over several days. This ritual is supposed to protect the child from many diseases. It has been suggested that similar to acupuncture, the piercing may initiate antigen and antibody reaction, promoting immunity in the child.

7. ***Upanayana* (Sacred thread ceremony)**
   This is an important ceremony when the father of the boy hands him over to the teacher to be educated. Age of initiation varies across castes, being 8 years for brahmins, 11 years for kshatriyas and 12 years for vaishyas. The ritual of *vidyarambha* (beginning of education) is part of this *samskara.* Table 3.1 gives the *samskara*s in a capsule form.

It is to be noted that exclusion of piercing ears for boys and girls (*karnavedhana*) from the *Grahyasutra*s and inclusion in the Ayurvedic texts perhaps is of some significance. The detailed account of ear piercing reveals the meticulous care taken to see that infections or unwanted complications do not occur if the process is carried out by the physician. Thus the purpose apparently is not decorative and must have had some medical significance. Perhaps this is one of the questions which need to

be researched upon. Does this practice bear some semblance to ancient Chinese practice of acupuncture? The fact remains that children of both gender and of all castes till the present century have this ritual as a common practice.

The purpose of various rituals and *samskara*s are described differently by the various ancient scholars. But the most agreed upon purposes are: the removal of tainted inherited predispositions and generation of fresh qualities of fitness (Kane 1941). Thus, the concept of *samskara*s represents the equilibrium brought about by the contributions of heredity and environment.

To conclude, the examination of ancient childcare system reveals that a great deal of attention was paid to the care of the infants and children.

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Chapter 4
Disorders of the Newborn

4.1 General Examination of Children

In this section, the disorders of newborn are described. Sometimes, the infant may develop problems despite normal care. The following symptoms that may be noted in a newborn.

4.1.1 Unconsciousness

Kumar (1999) quotes *Vagbhata's* Ashtanga Hridaya and describes the following stages:

- Deep unconsciousness
- Not crying even after stimulation
- Decreased or unstable *dhatus*
- Hypersensitivity to pain stimuli
- Appears almost dead

(This appears to be a description of an asphyxiated child; however, other conditions such as meningitis or sepsis could also present this way).

Such an infant should be fanned with a winnowing basket and irrigated with *bala* oil. But *Vaghbhata* believed that these children may not survive to reach youth.

4.1.2 Ulvaka *(Aspiration Pneumonia)*

This may be due to aspiration of the amniotic fluid. The symptoms are heart problems, convulsions, breathing difficulties, cough, vomiting, fever, etc. The treatment

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consists of clearing of air passage, using goat's urine. Medicated ghee should be given orally. Breast milk too should be given with medication. Bath and massage are contra indicated. (This is a description of a child who has aspirated amniotic fluid which was probably meconium stained. In modern paediatrics, attempts are made to suction the fluid out, and then provide required ventilatory support).

4.1.3 Upashiraska *(Painless Swelling of the Head)*

It appears like a second head and there is no discoloration over the skin. At times, if affected by *vata,* fever or pain may be present and should be treated for that. This is a self-remitting condition. If the swelling is infected, it should be treated as an abscess using incision and drainage. (This appears to be a description of caput formation which occurs with prolonged labour. If the swelling crosses the mid-line, cephalohematoma should be considered, which is often bruised or discoloured).

4.1.4 Complications of the Umbilical Cord

Normally, the umbilical cord should fall off within 5 days. The various disorders associated are:

Nabhi Paka (Umbilical Sepsis)
Nabhi Sotha (Inflammation)
Unnatha Nabhi (Granuloma)
Annumatha Nabhi (Rawness)
Nabhi Tundi (*Hernia*)

Incorrect cutting of the cord leads to the following abnormalities: broad based with less protuberance, round and hard, protruding around the edges and depressed in the centre, or recurring protruberance. The treatments depend on the severity. They include light massage, anointments, sprinklings or medicated ghee. (These disorders/conditions are noted in modern day paediatrics. However, they are not believed to be due to incorrect cutting of the cord.)

4.1.5 Nutritional Disorders

Nutritional disorders and problems due to drinking of adversely affected breast milk. In the treatises on children, some of the disorders are attributed to breast milk affected by the *dosha*s (*Vata, Pitta* and *Kapha*). *The dosha*s consist of three physical *dosha*s and two psychological ones: *rajas*—(passion) and *tamas* (darkness).

4.2 Abnormalities of Breast Milk and Their Management

Breast milk being the sole source of nourishment for infants may cause various systemic disorders. Breast milk is adversely affected by (a) nutritional, (b) physical and (c) psychological factors of the mother/wet nurse.

(a) Nutritional factors are: consumption of uncongenial, unusual, unfavourable and incompatible foods and overeating by the nursing mother. Use of excessively salty, sour, hot, alkaline, stale or putrefied food, or those made of rice ambrosia, jaggery, curds, meat, flesh and wild animals or aquatic creatures.
(b) The physical factors are physical illness, poor sleep, suppression of natural urges and urge to defecate but not actually being able to, etc. In addition, lack of exercise, trauma and emaciation can adversely affect the milk.
(c) Psychological factors are anxiety, fear, etc.

The *dosha*s get affected as described above and move through milk channels and cause eight types of disorders in infants (see Table 4.1).

In addition, Kashyapa (K.S.) has believed that the '*graha*s' (planets) too adversely affect breast milk. The treatment for all the above disorders is given to the mother. The treatment for these conditions is based on the fact whether the infant is solely fed on breast milk (*kshirada*), on cereals only (*annada*) or on both milk and cereals (*kshirannada*). If the infant is solely on breast milk, it is

Table 4.1 Eight disorders of milk and their effects on child (C.S.)

No. description of breast milk	*Dosha*	Effects on the child
1. Distasteful (*Virasastanya*)	*Vata*	Emaciated, delayed growth
2. Frothy (*Phenilastanya*)	*Vata*	Weak cry, retention or suppression of faeces, urine and flatus; head disorders (of *vata*) and *pinasa* (chronic rhinitis)
3. Unctuous (*Rukshastanya*)	*Vata*	Suffers from loss of energy
4. Discoloured (*Vivarnastanya*)	*Pitta*	Discolouration of body, excessive Sweating and thirst, diarrhoea, body is always hot and no desire for sucking the breast
5. Foul-smelling (*Dourgandhastanya*)	*Pitta*	Anaemia and jaundice
6. Excessively unctuous (*Snigdhastanya*)	*Kapha*	Vomiting, exhaustion, dyspnoea, excessive salivation, excessive sleep, cough and asthma.
7. Slimy (*Picchilastanya*)	*Kapha*	Face and eyes become swollen, child becomes dull, excessive expectoration
8. Heavy (*Gurustanya*)	*Kapha*	Disorders of the stomach and other disorders of milk

the nursing mother who is given all the treatment and occasionally the drugs are formed into a paste and applied on the breasts. If the baby is only on cereals, the treatment is given directly to the infant.

The treatment to the nursing mother consists of the diet according to the predominant *dosha*s.

In brief, these suitable diet for the mother consists of cereals (rice or wheat), pulses such as *moong* and *masoor*, vegetables such as gourds, eggplant and onion, spices such as ginger, rock salt and mild wines and appropriate diet and drugs and purging with laxatives (for *vata* and *pitta*).

4.3 Nutritional Disorders[1]

These are due to consumption of adversely affected breast milk or inadequate supply of nutrients to the child. In addition to the disorders discussed in the above section, the children may become emaciated, weak, have acute gastroenteritis and dehydration, wasting of body, cough, vomiting, poor digestion, enlarged abdomen, poor appetite and mental symptoms such as confusion.

In the Ayurvedic practice, the main object of the physical examination is to determine the life span. Charaka (C.S.) has stated that the newborn should be examined thoroughly after 10 days of birth and until maturity on a regular basis, for the evidence of the growth and development and physical deformity or illness. In brief, Charaka's examination as given by Kumar (1999, pp. 97–102) is as follows (Table 4.2):

Kashyapa (K.S.) has recommended that the child may be examined from feet upward to the scalp in a methodical fashion. The various body features form the basis for prediction of future occupation, life span, health, wealth and prosperity. They are rated as being healthy or unhealthy, auspicious or inauspicious to the child or his family.

[1]This section is mainly drawn from Kapur and Mukundan (2002).

Table 4.2 Examination of child (as described by Charaka)

Body parts	Optimal findings	
A. General observations	1. Body hair	Distinct from one another, soft, sparse, oily with firm roots and dark in colour
	2. Skin	Tight and thick
	3. Voice	Loud, strong and deep
B. The head	1. Cranium or Skull	Without defect, well formed, slightly larger than usual, yet not disproportionate to the body and resembling an open umbrella is deemed favourable
	2. Forehead	Large, compact, levelled, well knit with temporal bones, equipped with three vertical lines, well developed, furnished with horizontal lines and resembles the half moon
C. Eyes	1. Eyes	Both the eyes should be equal, with well defined parts, with good eye sight and good control over eye ball movement
	2. Eyebrows	Slightly long, having a small space in between, equal, thick and broad
D. Ears		Well developed, hairy, broad, even, well matched, pendulous, depressed in the back and with large aperture (meatus)
E. Nose		Straight, with nostrils wide enough for large puffs of breath, the tip slightly curved
F. Lips		Lips should be neither thick nor thin and endowed with proper breath, cover the mouth properly and red in colour
G. Oral cavity	1. Cheek bones	Should be large
	2. Tongue	Long, broad and small, smooth, thin and without deformity and of pink colour
	3. Teeth	These should be large and straight
	4. Palate	Should be smooth, moderately fleshy, warm and red
H. Neck		Neck should not be too long
I. Flanks		Should be symmetrical with the shoulders, and must be compact
J. Upper extremities	1. Shoulder and vertebra	Should be well covered with flesh
	2. Arms, fingers and hand	Should be rounded, well developed and long. Hand should be large and well developed
	3. Nails	Nails should be strong, curved, glossy, elevated and convex like a tortoise shell

(continued)

Table 4.2 (continued)

Body parts	Optimal findings	
K. Trunk	1. Chest	Broad and well shaped
	2. Breast	Should be separate from each other by a wide space
	3. Navel	Should be well depressed and with right whorl
	4. Waist	The waist should be thrice the length between the navel and chest, even, and not endowed with flesh
L. Lower extremities	1. Buttocks	Should be well rounded, compact and fleshy, neither very elevated nor very depressed
	2. Thighs	Thighs should be gradually tapering and well developed
	3. Calves	These should be neither fleshy nor devoid of flesh and ending in ankles. Shape should be like that of deer and contain nerves, bones and joints which should be well covered
	4. Feet	Should be convex in shape and like a tortoise shell
	5. Heel	Heel should be neither very fleshy nor devoid of flesh

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Chapter 5
Common Childhood Disorders and Treatments

5.1 Kashyapa (*K.S.*)

Kashyapa (*K.S.*) has illuminated the subject of childcare with two statements.

5.1.1 Characteristics of the Physician

A children's physician is one who is mature and a scholar of *shastra*s. He should treat children with mild and painless medicines. A physician with limited experience, in fact, makes a curable disease of the infant an incurable one. As a consequence, the physician is likely to suffer all through his life.

5.1.2 The Importance of Clinical Observation as a Tool

As young children cannot report their problems, one requires special ways of recognising their symptoms through good observational techniques. From the variations in the way the child cries, one can discover the source of discomfort and the improvement or worsening of the illness. For example, the child would keep touching the affected body part repeatedly and would cry but not allow others to touch that part by kicking or moving away. If the child closes the eyes and cries, moves his head frequently, cries at night and has loss of appetite and sleep, he has pain in the head. If he keeps biting his tongue and lips, or grinds his teeth, breathing fast and closing fists, it indicates his lungs are affected or that he has chest pain. Before the onset of fever, the child yawns, refuses feed, suffers from excessive salivation and has hot face and cold feet. If he has problems in

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the gastrointestinal system, he will bite the breasts of his mother, has rumbling in the stomach and will thrust his abdomen forward repeatedly bending his back and probably has constipation and vomiting. If he has retention of flatus, urine and stools, he trembles, he looks in all directions, with pain in the anal and genital region. If the child cries incessantly (*rodanam*), he has pain all over the body.

Kashyapa (*K.S.*) has given detailed description of the signs and symptoms of childhood disorders to his disciple Vriddajivaka, asking him to be especially careful with a child patient. The instruction is in the form of verses describing the disorders and treatments for them, with aetiological speculations whenever possible. These do not follow any particular scheme. Some may belong to a particular system such as gastrointestinal or respiratory, some are isolated symptoms, while the others are of the general nature. In addition, some could be labelled as disorders while others as only symptoms. These are simply observations by the clinicians of the ancient times. It is to be noted that in the ancient texts some disorders are described very briefly, while some others are fairly elaborately dealt with. The following descriptions are drawn from the secondary sources (Lakshmipathi and Subba Rao 1995; Bhattacharya 1956; Singhal and Guru 1973; Sharma and Bishajacharya 1953; Sharma 1983; Tewari 2002; Kumar 1999).

Shiroroga (Head ache)

The child may show excessive movements of the head, closing the eyes, crying at night and sleeping during the day or not sleeping well and not taking feeds properly. Headache is a common symptom and the likely causes are lack of fresh air, climate, hunger and emotional factors.

Karnaroga (Ear ache)

The child may touch his ears and move his head repeatedly and has nausea and loss of appetite. Ear discharge is another common childhood disorder.

Netraroga (Eye Disorder)

The eyes are swollen with burning sensation or pain. Eyes are reddened and tears flow a great deal. The child has difficulty in seeing. During sleep, the eyes get glued together with secretions.

Shushka Netra (Dry Eyes)

The child lies in bed, tossing about and crying. Likes his body pressed or massaged, but at times when pressed, swelling may occur. Tears flow and tiny blisters appear in the lids and there is pain and burning.

Talukanthakam (Disorder of the Palate)

Due to the phlegm in the throat, the palate swells and descends. Because of this, the infant cannot breast feed. He has itching in the mouth, is thirsty, has heaviness of the head and bends the neck. He has loose motions. The palate can be elevated and pressed with fingers using medicated honey.

Mukhasrava (Drooling)

The infant may drool a lot and can be treated by washing with special decoctions.

Adhijivhika (Diseases of Epiglottis)

The infant drools, has loss of appetite, tiredness, swelling of cheeks. The infant groans with open mouth.

Kantha Vedana (Pain in the Throat)

Vomiting, regurgitation, constipation and aversion to feeds are seen in the child.

Kanthashotha (Pharyngitis)

Inflammation of the throat, fever and dislike of the food are common symptoms.

Asyapaka or *Mukhapaka* (Ulcers in the Mouth)

The infant drools, refuses feeds, appears sad and breathes through the nose and vomits yellow coloured milk.

Chardiroga (Vomiting)

In the newborn, it may simply consist of bringing the feed up after breast feed and it could be due to obstruction and faulty feeding techniques. Later on, in older children it could be due to abdominal problems.

Penasa (Breathing Difficulty)

The child may breathe from the mouth while feeding and may have nasal discharge, warm forehead and repeated cough and sneezing. Injury to the chest also may produce similar symptoms and it is called '*uroroga*'.

Kasa and *Shvasa* (Breathing Difficulty)

Irritation in the throat and chest, with expectoration, fever and dryness of mouth are present in *shavasa,* i.e. sweating in the forehead and tension in the eyes. In whooping cough *(kukkora kasa),* there are paroxysms of cough ending with loud inspiration. It is accompanied by pain in the chest, sides, abdomen, headache and feeble voice.

Udarasula (Abdominal Pain)

Refuses breast feeds and cries a lot. When he lies down on his back, the abdomen becomes hard. There is stiffness and swelling of the face. If an infant cries persistently even after a proper feed, anytime during the night or day, abdominal colic may be the reason.

Mridashana Dosha (Pica)

Eating of mud in children must be prevented by vigilant care as it may lead to serious disorders like anaemia and worm infestation.

*Aahasi/Anah/Arasha*s (Constipation)

If the stools are hard, the child strains when passing motion and has itching and pain. Pain on defecation and blood in the stools may occur due to anal fissures and the child may lose weight.

Ahiputana (Diaper Rash)

This is due to not cleaning the diaper area properly and due to smearing of stools, sweat, or effect of *kapha*. Red blisters which are itchy may be formed.

Atisara (Diarrhoea)

The child may have discolouration of the body, feeling of dullness, insomnia following loose motions. This is due to influence of *vata*. Diarrhoea with fever (*jvarathisara*) and blood in the stools (*raktatisara*) are the other variants of this common symptom of childhood.

Muthrakicha (Dysuria)

Goose bumps and pain during urination, biting of lips and touching above the genital areas may be seen.

Muthraghata (Retention of Urine)

Retention of urine followed by sudden voiding of the bladder and urine deep yellow in colour are the symptoms.

Asmari (Bladder Stones)

Frequent and burning urination may be present. The child cries incessantly and is weak. Has pain while urinating and passes small crystal like stones in the urine.

Shayyamutra (Bedwetting)

Wets the bed during sleep. It is caused by the increase in the *dosha*s.

Andavridhdhi (Swelling of Testicles)

It is due to excess of *pitta dosha.* One of the treatments in addition to various decoctions is piercing on the middle ear lobe on an opposite side where there is swelling (acupuncture?) (It is unclear if this is due to mumps, infection, torsion or injury.)

Prameha (Juvenile Diabetes)

Heaviness and dullness of the body, sudden passing of urine are seen and flies sit on the area where urine has been passed. Urine becomes thick and whitish.

Visurpa (Erysipelas)

Red circular spots appear on the body and the child suffers from thirst, fever, uneasiness and likes to have sweet and cold eatables. A more severe variety occurring in the newborns due to the internal or external causes is called *mahapadmaka* where there is inflammation in the head or bladder regions.

Shuskha Kandu (Pruritis)

There is itching during the night and the child cries and scratches the body parts. Chronic pruritis is called *ardakandu*—where excessive scratching leads to discharge. (If in the rectal area this could indicate worm infestation.)

Dantashabda (Teeth Grinding)

Teeth grinding has been described as a disorder.

Madatyaya (Drug/Alcohol Intake)

The child loses consciousness, suffers from sleeplessness, is thirsty, vomits and is uneasy and confused.

Jantu Dansha (Insect Bite)

Healthy child loses sleep during the night and red spots appear on parts of the body. This is also similar in description to that of worm infestation (*krimi*).

Masuchika (Pox: Chicken/Small)

Small blisters all over the body with fever.

Sidma Roga (Vitiligo/Leprosy)

The skin has discoloured patches.

Alasaka (Paralytic Ileus)

The child loses head control, has pricking sensation over the body, repeatedly yawns, refuses to breast feed and vomits frothy fluid and has distended abdomen. The condition known as *visuchica* is difficult to differentiate from *alasaka.*

Anaha (Constipation)

It is a chronic state. The child opens the eyes wide, has pain in the joints and has feeling of dullness. Has retention of urine, stools and flatus.

Amadosha (Metabolic Disorder)

The hands become clammy, the child appears dirty despite having given a bath, does not like to sleep, play or feed, dislikes the caretaker. This condition is characterised by sweating, pallor, fatigue, nervousness and irritability.

Jvara (Fever)

The child may have repeated contraction of the extremities, yawning and coughing. Clings to the mother but refuses feeds. Excessive salivation and nasal discharge may be there. The body becomes warm and discoloured. Forehead is warm. The feet are cold. The child loses appetite. Eleven different kinds of fever are described according to their aetiology. Six are due to influence of *vata, pitta* and *kapha,* and the rest are descriptions of different kinds of fevers.

Trishna (Thirst/Dehydration)

The child is not satisfied even after excessive feeding and cries. The lips become dry and fontanelle depressed. He wants to drink water.

Kamala (Jaundice)

The eyes, nails, mucous membrane of the mouth, stools and urine turn yellow. The child becomes listless and loses appetite.

Pandu (Anaemia/Pallor)

There is oedema around the umbilical region, eyes and nails and mouth becomes whitish. Decreased digestion and puffiness around the eyes are seen.

Balakshaya (General Weakness)

The child weakens, gradually losing appetite.

Hridroga (Heart Disease)

Rheumatic heart disease (*aamavata*) is a disorder, where the child looks pale, sweats profusely, has poor appetite and thirst and is not interested in play. The child ‘looks clean’ even when not bathed.

Phakkaroga (Rickets)

When the child is about a year old, he is unable to walk. There are three types of *phakkaroga*: *kshiraja, gharbhaja* and *vyadhisambhaja.* All the three are attributed to *vata*. The first is characterised by inability to walk properly, the second by digestive disorders and the third by physical emaciation, lack of growth with deafness and inability to speak.

Charmada (Infantile Eczema)

This disorder of infancy is characterised by pain, itching sensation in palms and soles and spreads all over the body with red eruptions. Mostly occurs in infants on breast milk and diets which cause aggravation of *vata*. There are four types attributed to the three *dosha*s and one of mixed variety. The treatment is given to the mother and if the child is on supplementary diet—then to the child too. (In current paediatrics, eczema is believed often to be related to early introduction of foods or of cow's milk and prolonged breast feeding may be protective.)

The description of the following disorders is rather unclear and sketchy in the texts.

- *Unmada* (mental disturbance)
- *Apasmara* (hysteria or epilepsy)
- *Shaisava sanyasam* (infantile convulsions)
- *Murccha* (fainting)
- *Bhranta* (Confusion)

The above disorders do not cover the entire range, yet are representative of major syndromes described in the ancient Ayurvedic texts.

5.2 Prediction of Outcome Through Dreams in the *Kashyapa Samhita*

In addition to description of disorders, prediction of death of the child is given as seen by the caretaker in her dreams. These are: A healthy and happy mother has nightmares; her milk flows by itself and she has dreams of the infant falling off her lap, of her having sexual relations with bad people; of having a good meal, of dead children; of people of different caste; of people who are intolerant of better fortunes of others, very inauspicious events which foretell the death of the sick infant. In addition, there are descriptions of inauspicious events occurring around the child which also are predictive of poor prognosis (Kapur 2013).

5.2.1 Developmental Stages in Childhood in Ayurveda[1]

In Sushruta's classification of age, the period before 16 years of age is called *balyavaya* (childhood). This is further subclassified as *kshirada* (milkfed), *kshirannada* (milk and cereals) and *annada* (solid food). Fundamental principles of Ayurveda describe *kapha* as the predominant *dosha* during childhood, *pitta* during adulthood and *vata* during old age. *Kapha* is mainly responsible for growth and development, *pitta* for vigour and vitality of youth and *vata* for precipitating atrophy and involution as the *kapha* gets gradually depleted. In the predominance of *kapha* in childhood, *dhatu* also remain well formed and nourished. Up to the age of 16 years, there is a tendency of gradual development of *dhatu, indriya* and *ojas.*

Grouping of children according to age:

- Newly born to 15 days
- 15 days to 3 months
- 3 months to one year
- 1–3 years
- 3–7 years
- 7–12 years
- 12–18 years

5.2.2 Care of the Child

It is considered important that the physical and the psychological conditions of both the baby and the mother are taken care of as these conditions, when neglected, can cause disease in the child. In many parts of India, midwives or trained women are employed for *rakshoghna kriya* (to take care) of the baby and the mother, till the baby is a few months old. Earlier, this was done by the elderly women of the joint families.

Abhyanga snana (oil bath) of the baby: A baby can be oleated every day or on alternate days in severe winter. Before bathing a baby, its *brahmarandhra* (fontanelle) should be oleated with clarified butter, and for the rest of the body, different types of edible oils are used depending upon the weather conditions.

Dhoopana (Fumigation): The *Kashyapa Samhita* includes 40 *dhupa*s in its chapter *Dhupakalpadhyaya.* Of these only 31 *dhupa*s are presently found in the chapter (*K.S.*).

[1]Section 5.3 draws heavily from Kapur and Mukundan (2002).

For three types of fumigations called *dhupa, anudhupa* and *pratidhupa* that counteract each other, substances of animal or vegetable origin are used. Uses and names of *dhupa* are given below:

- For promotion of health and vitality: *Kumara dhupa, siri dhupa.*
- For general disorders: *Agneya dhupa, rakshoghna dhupa, nandaka dhupa, brahma dhupa, arishta dhupa* and *svastika dhupa.*

Preparation of *dashanga dhupa* (aromatic fumigation powder):

According to the availability of the ingredients, at least four of the ingredients mentioned. can be taken in equal quantities, powdered and stored for daily use—Incense, s*hatapushpa*, v*ayuvidanga*, leaves or bark of neem, *haridra, chandana, devadaru, vacha, guggulu, salja rasa, rala* and *karpura* (see Appendix).

Pathyapathya

The compatible or incompatible dietary patterns and mode of living determine maintenance of health or disease states. Charaka opines that a child can return to the healthy state in a short duration if he is administered appropriate drugs and wholesome diet. On returning to normalcy in health, a child should follow rules of hygiene, take *ahara* (diet) and daily routine recommended appropriate to the place, time and the nature of the child. Health and strength of the child is provided by the use of *satmya* (compatible, that includes habituation, acclimatisation, tolerance, immunity and endurance of) substances. Certain compatible substances can later become a *satmya* (incompatible, hence can create problem) for the child. They should be stopped gradually. Milk should be diluted and *madhura dravya*s (sweet edibles) should be added to it. It is necessary to avoid drugs, drinks and food items that are excessively *snigdha* (unctuous), *ruksha* (dry), *ushna* (hot) or *amla* (sour) in property, *katu vipaka* (bitter) or *guru* (heavy) (*C.S.*).

Nutritious Diet After the First Year

The breast feeds should be decreased very gradually and the semi-solid and solid foods should be started in the same manner. For weaning, Sushruta has advised (*laghu*) easy to digest cereals. Kashyapa has advised flesh of birds. Vagbhata has given a nutritive recipe of sweet *modaka* (boluses) made of pulp of *priyala*, *yashti-madhu*, honey, laja (roast popped rice paddy) and candy sugar.

Other examples are: Bananas peeled and cut in small pieces are dried in the sun. The dried banana is powdered finely and stored in dry containers. Some of this powder is boiled in milk to make porridge and given to babies as a meal. *Chandrasura,* coconut flowers and jaggery are heated and melted, mixed together, cooled to make boluses and stored for use.

5.3 Fundamental Principles for the Treatment of Disorders in Children

The *dosha*s in children are unstable. Children are delicate and incapable of expressing their problems. The treating physician should, therefore, handle the complaints keeping in mind certain general principles and use his experience and expertise (*C.S.*). Knowledge of the disorder should be acquired before the commencement of treatment. The treatment should be commenced immediately after the physician detects the prodromal symptoms of the disorder through the *prakriti* of the child, *nidana* (aetiological factors), *purvarupa* (prodrome), *linga* (symptoms of the disorder) and *upashaya* (therapeutic suitability) of the disorder. This includes drug, diet and behavioural correction (*C.S.*). Kashyapa has given additional advice. First, by drawing inferences, by the activities related to the disorders, an ailing child should be examined thoroughly. Second, a thorough examination should be performed daily. Lastly, the time of aggravation of diseases is to be ascertained on the basis of season, day and night, time and method of intake of food. Treatment should be decided on the basis of 10 conditions, namely, *dushyam* (body tissues and excretory functions, that is *dhatu* and *mala*), *desham* (place), *balam* (strength), *kalam* (time), *analam* (Agni or the metabolic agent), *prakriti* (personality type), *vayah* (age), *satva* (mental faculty), *satmya* (an individual is adjusted to in the environment) and *ahara* (diet).

General directions for taking drugs: It is essential to follow the course of certain general directions during medication. Only those aspects that are applicable to children are dealt with:

- Prayer to God: Prayers are also considered very important.
- Hygiene: Rules of hygiene are greatly emphasised upon with control of activities.
- Diet: Rice prepared from good paddy grown a year earlier; parboiled rice rubbed with hot water, made into paste and sifted through a cloth), *Palika* (thin home-made bread), powder of *laja* and *laja manda* (paste made of *laja*), are taken with a little sugar and rock salt. Milk, which has several good properties may be given with special medicines, but avoided when abdominal disorders are manifested. *Ghritam* (ghee) increases vitality, strength, retentive faculties, digestive power and pleasant appearance. It pacifies the *tridosha* and is nutritious. It is prohibited in conditions caused by *kapha* or *pitta* alone or certain abdominal disorders. It should be avoided at night in winter and during day in summer. It is to be avoided by boys and those who have impaired digestion. Meat of certain birds, animals and fish is prescribed when necessary.

5.3.1 Unwholesome Diet and Activities

Avoidance of the following is indicated. Taking meals at irregular timings or much before or after usual time, taking excess or inadequate quantity of food, taking

meals before feeling hungry, taking heavy food, taking *vidahi* diet (food that gives rise to inflammation, thirst, acidity) simultaneously increase in *vata* and *pitta.* This includes roasted articles namely red pepper (chilli), rice, chickpea powder (Bengal gram) and *kalaya* (pisum sativum) or if fried in oil, food with excessive seasoning with mustard, sour, fermented, or commercially prepared food, and the one that gives rise to *vata* and *pitta.*

5.3.2 Diet of Incompatible Combination

Disorders are produced by diet that is formed by food harmless by itself but incompatible when combined. For example, milk is antagonistic to fish, meat and acid. Fish is antagonistic to butter, clarified butter, milk, meat and sweets. Meat is antagonistic to oil, milk and fish: Butter and clarified butter are antagonistic to fish and oil. Bell-metal pots should not be used as containers for keeping butter, clarified butter and coconut-water. Reheating of decoctions of medicinal herbs and food, once prepared, is contraindicated. Meat of more than one animal should not be eaten on the same day. Different types of food ingredients taken simultaneously are considered injurious to health. These are honey, ghee, milk, oil and water. Various other antagonistic food combinations are given in the ancient Indian texts.

5.3.3 Drinking Water at Dawn

Most of the disorders are cured by habitually drinking water a little before dawn. It frees people from disorders and senility. Such people live for at least a hundred years. Other methods of the intake of water and dietary restriction are also delineated but these are not applicable to children.

5.3.4 Avoiding Exposure to Sun, Heat or Drafts of Air

Exposure should be restricted as sun rays cause roughness and discolouration of the skin, ophthalmic disorders, perspiration, thirst, inflammation, fatigue, blood impurities and loss of consciousness. Protection from sun is considered very important, unless in cold regions. Sunrays are beneficial in cold climates. Inhabitants of tropical countries who cannot withstand winter are advised to expose the back of their body for a short duration to the sunrays. Cold climate minimises the effects of exposure to sun. Exposure to heat is beneficial in spring, a season where excess of phlegm accumulates in the body as a natural process. To avoid increase in *tridosha,* one should not expose oneself to sun or fire for at least 48 min before or after taking a meal.

Avoiding naps or day-sleep, or late night sleep: Day sleep should be generally avoided as it gives rise to various disorders, increases *tridosha,* reduces longevity, and hence considered injurious to health. But it is recommended for infants.

Dosha, dushya and the disorders in children resembling those in adults call for almost similar prescriptions with reduced doses in children depending on their age (*C.S.*).

It is important to note that food is the basic regulatory agent to which oral medication is considered secondary. Medicine, taken with meal (*sabhokta*) is always beneficial especially for infants, the weak, the old or those aversive to medication.

As a vehicle for the administration of medicines, *samskarasya anuvartanam* is *ghritam* (ghee or clarified butter) that is commonly used. It retains the action of medicines, reduces the irritation, has a soothing effect and enhances the absorption of medicine. Honey is also considered a good vehicle for absorption of medicines. Some herbs used as medicines or curative agents require either some additions or alterations for enhancement of the therapeutic action of the drug and quick results; for example, finely powdered *yashtimadhu* is mixed with honey or added to pure ghee.

5.3.5 Dosages or Measures

In ancient India, weights were measured on four different scales. These were Charaka, Sushruta, Magadhi and Kalinga. In all the scales, *gunja*, the seed of *abrus precatorius*, was the lowest weight. The commercial weights varied across regions, were different from the ones used by Charaka and Varahamihira and also different in Indian pharmacopeia. An attempt is made to approximate them. This description of weights will be useful for those who wish to refer to ancient Indian source books where all the weights of the ingredients of the medicinal formulae and dosages are given in the above format. The measures used were as follows:

A *gunja* was basic unit of measurement. For example, one *gunja* = 18 mustard seeds or 4 grains of paddy or 2 grains of wheat or 3 grains of barley.

If the full dose of an Ayurvedic medicine is given to adults, the doses for children of different ages are as follows:

- For the newborn in the first month, oral medication is administered with milk or clarified butter or honey.
  For infants a month old, one *gunja*, an additional *gunja* for each additional month is given. In infants unable to take decoctions and other bulky medicines, their wet nurses are made to take them. Sometimes small quantities of medicines are applied on the nipples, and the child is made to suck them.
- For children a year old, the dose would be 12 *gunja* and an additional measure of the same for every year, till the age of 16–60, full dose should be used, after which it should again be gradually reduced.

Time of taking medicine: Medicine as a cure for disorders is very effective on an empty stomach, but it brings exhaustion and depletion of strength in children, old, young women and persons with weakness. Absorption of medicine by the system and its efficacy is much better if these patients take medicine with food. This prevents weakness or regurgitation.

5.4 Treatment of Common and Uncommon Disorders in Children

Treatment of infants has been a highly specialised subject in ancient Indian sciences. But many of these were traditionally in use in Indian homes. In Indian families, the elderly carried out the treatment of common disorders of infancy and childhood. Traditional practices of childcare are being lost in the families belonging to higher socio-economic class, especially in nuclear families with changing times. In this section, an attempt is made to show how herbs were used for various disorders.

The following formulations are collected from various Ayurvedic texts in consultation with the Ayurvedic physicians. Treatments for only some of the disorders mentioned in the earlier chapters are described below.

Treatment of disorders, apart from use of drugs, consists of dietary regimen and certain other complementary therapeutic modes. Medicinal formulae prepared are simple or complex mixtures based mostly on plant products. About 1,250 plants are currently used in various preparations as mentioned in the Ayurvedic texts. Some of these plants have been scrutinized and their importance is accepted (see Appendix). Detailed descriptions of the mode of action of several herbs are provided in the ancient texts and recent research confirms the activity of some of the herbs.

The therapeutic strategy includes *balopacharaniya* (care of the children), *balamaya pratishedha* (prevention of diseases of children) and *balagraha pratishedha* (prevention of seizures by the *graha* in children).

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Vriddha Vagbhata (Younger)	V.
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Chapter 6
Serious Disorders of Childhood and Treatments

6.1 Influence of the *Graha*s

Disorders of unknown aetiology are attributed to supernatural forces. The *graha*s and *bhuta*s (mentioned in *Bhuta Vidya*) are described as invisible beings (*sookshma sharira*). These disorders occur only in children. According to Charaka, these are not due to influence of *dosha*s, but are caused by displeasure of supernatural beings (as opined by the sages) and present with unusual symptoms, aetiology and response to treatment.

The *graha*s are described differently in the paediatric (*Kaumarabhritya*) branch and in *Bhuta Vidya,* another branch of Ayurveda. *Graha*s in the two treatises are different. Yet another description is given in the *Agnipurana*. For example, the *graha*s affect the child from day one (after his birth) to 17 years. These are 10 *graha*s for the first 10 days of life, 12 for the first 12 months of life and 16 for each year from the second to the 17th year of the life. The name of 38 of the *graha*s, their effects on the behaviour of the child are described. They have 'specific' age limits (Lakshmipathi and Subba Rao 1955).

In the present chapter only the syndromes attributed to *graha*s are described in brief. As a matter of interest, brief descriptions of the *graha*s are given.

The term '*graha'* means 'seize' or 'grasp'. The term here does not mean the planets as used in the conventional sense in astronomy and astrology. The *graha*s are attributed gender, personality characteristics, attire, looks, proclivity towards certain food and preferred rituals to be pacified with. They are supernatural, invisible and evil forces. Names of 12 *graha*s which are commonly described in several paediatric texts are given in the following pages. One of them is described to illustrate how the *graha*s were perceived by the physicians and lay people of the ancient times. For example, the chief of *graha*s is *Skanda.* He has been described as wearing a golden crown, garland of red flowers and is attired in red. His body is covered with red sandalwood paste and he has a charming personality. *Revati* is a

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female *graha* who is dark complexioned and wears attires and garlands of different colours. Her body is covered with sandalwood paste. She wears dangling earrings. Similar descriptions of physical and psychological characteristics of all the *graha*s are given in several texts.

The *graha* invasion is alleged to occur under the following conditions:

1. The code of conduct and hygiene are not followed by the mother/wet nurse.
2. The child is frightened because of threats or beating.
3. The priest, holy persons, teachers and guests are not respected.
4. The mother/wet nurse indulge excessively in food, sex, sleep, exercise and harmful and non-religious activities.
5. The child or the mother eats unclean food.

The child has been left alone in unsafe and inauspicious places

The *graha*s 'seize' the infant because they are evil forces and want to get themselves worshipped and to get the sexual passions pacified. Before the seizure by the *graha*s, the child cries incessantly, has tantrums and fever. Once affected by the *grahas* the child has tremors, looks upwards, bites lips and teeth, keeps awake all the time, screams, scratches himself and the mother/wet nurse. Fearfulness is a common symptom of *graha* afflictions.

Each of the *graha*s has several other names. Specific descriptions of effects of each of the 12 *grahas* are given below as described by Kumar (1999).

Tables 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12 and 6.13 give detailed descriptions of the *graha*s and their influence along with the possible diagnosis as seen in the contemporary paediatric practice indicated by + sign if present and—sign if absent and by a—if not mentioned. When both are given together, they may both be present at different times.

Table 6.1 Features of *Skanda Graha* [As described by Sushruta (S.S), Facial Palsy]

Skanda Graha	Facial Palsy
1. Inflammation of eyes	+
2. The child appears restless	+
3. Deviation of angle of mouth	+
4. There is absence or excessive movement of one eyelid	+
5. Refusal of suckle	+
6. The child closes his eyes	+
7. Less weeping	±
8. Fists become tight	–
9. Usual complaint of constipation	–
10. The child emits the smell of blood	–

Table 6.2 Features of Skanda Graha (As described by Vagbhata, Polio-encephalitis)

Skanda Graha	Polio-encephalitis
1. Excessive lacrimation from one eye	+
2. Half side of body becomes paralysed (monoplegia)	+
3. Recurrent convulsions	+
4. The body becomes stiff	+
5. Excessive sweating	±
6. Drooping of neck	+
7. The child looks frightened, restless and bites his lips	+
8. Deviation of mouth and excessive salivation	+
9. Upwards deviation of the eyes	–
10. Involuntary movement of one eye, eye brows and face	±
11. Tight fists	+
12. Flushing of face	+
13. Constipation	+

Table 6.3 Features of *Skandapasmara* or *Vishaka* (Seizures)

Skandapasmara or *Vishaka*	Epilepsy
1. Recurrent loss of consciousness with irregular movements of limbs and frothing from mouth	+
2. The child plucks his hair and may bite his tongue or nipples of his mother	+
3. The child may pass urine and stools involuntarily	+
4. Yawning may be associated with typical sound (cry)	+
5. Associated features: (i) Fever (ii) Awakening in night (iii) Body smells like pus and blood	+ – –

Table 6.4 Features of *Mesha Graha* (Meningitis)

Mesha Graha	Meningitis
1. Stiffness of body, bending in the middle	+
2. Loss of consciousness with irregular movements of limbs, clenching of fists and biting his lips and fearfulness	+
3. Upward deviated look	+
4. Fever (continuous type)	+
5. Associated features—hiccough, cough, diarrhoea/vomiting	±
6. Swelling of one ear	–
7. The child emits the smell of goat	–

Table 6.5 Features of *Putana Graha* (dehydration)

Putana Graha	Diarrhoea, dehydration and electrolyte imbalance
1. Diarrhoea and vomiting	+
2. Body appears relaxed	+
3. The child likes to drink much water	+
4. Associated symptoms Retention of urine Distension of abdomen Hiccough, etc.	

Table 6.6 Features of *Shitaputana* (dehydration)

Shitaputana Graha	Diarrhoea, dehydration and hyponaetrimia
1. Diarrhoea and thirst	+
2. The child shivers repeatedly (startles)	+
3. Gurgling sounds in abdomen	+
4. The body is warm on one side while cool on the other	−
5. Comatose/sleepy	+
6. Cries incessantly	+
7. The child emits smell like fat	−

Table 6.7 Features of *Andhaputana* (Vitamin A deficiency)

Andhaputana	Diarrhoea/Vitamin A deficiency
1. The child suffers from diarrhoea, vomiting, fever, cough, etc.	+
2. Child does not like food	+
3. Emaciation and discoloration of body	+
4. Gradual loss of vision and various other eye complications	+
5. The child becomes irritable with sharp voice	±

Table 6.8 Features of *Pitragraha* (Respiratory infections with parenteral diarrhoea)

Pitragraha	Respiratory infection and parenteral diarrhoea
1. Fever, cough, diarrhoea and vomiting	+
2. Excessive thirst	+
3. Convulsions	+
4. Emaciation and discolouration of body	±
5. The child looks frightened and weeps suddenly	±
6. Excessive lacrimation	−
7. The child emits the smell of dead body	−

Table 6.9 Features of *Swagraha* (Rabies)

Swagraha	Rabies
1. The child develops tremors with sweating, closing of eyelids and erection of body hair	+
2. He may bite his tongue	+
3. The posture become episthotonos	+
4. Typical cry or sound like barking of dog	+
5. The child runs	±
6. Body emits the faecal smell	–

Table 6.10 Features of *Revathi* (Vitamin B complex deficiency)

Revati	Vitamin B complex deficiency
1. The mouth becomes red	
2. Greenish loose stools	+
3. The associated features: (i) Fever (ii) Stomatitis (iii) Pain all over the body (iv) Discolouration	± + ± +
4. The child usually rubs the eyes, ears and nose	–
5. Becomes emaciated and face appears drawn	±

Table 6.11 Features of *Shuska Revati* (Koch's Abdomen)

Shuska Revati	Koch's Abdomen
1. The child passes loose greenish stools, some time of variegated colour	+
2. The abdomen has nodes and appearance of prominent veins over abdomen	+
3. The child gradually becomes emaciated	+
4. Associated features: (i) Fall of hair (ii) Aversion from food (iii) Weak voice (iv) Discoloration (v) Excessive cry	+ + + + ±
5. Emits the smell of eagle	–

The above 12 syndromes may in turn be divided into four groups (Kumar 1999). Different Samhitas mention different *graha*s and in Kumar's classification Revati is not mentioned.

(a) Those which present with neurological symptoms, i.e. *skanda, skandapasmara, mesha* and *swagraha.*
(b) Those presenting with diarrhoea, i.e. *pitragraha, putana, shitaputana* and *andhaputana.*

Table 6.12 Features of *Shakuni Graha* (Impetigo)

Shakuni Graha	Impetigo
The child looks frightened with flexed body parts	+
1. Body is full of blisters with burning pain and inflammation	+
3. Oozing blisters ultimately form ulcer	+
4. Constitutional symptoms (i) Fever (ii) Diarrhoea	+ ±
6. The child emits the smell like Sakuni (a bird)	+

Table 6.13 Features of *Mukhamandika* (Indian childhood cirrhosis)

Mukhamandika	Indian childhood cirrhosis
1. Altered appetite	+
2. Abdomen appears full of blackish or bluish veins	+
3. The child looks dull	+
4. The hands, feet and face of child appear beautiful	+
5. May suffer from fever	±
6. Looks irritable	+
7. Emits the smell of urine	±

(c) Presenting with prominent vein over abdomen, i.e. *shushkarevati* and *mukhamandika.*
(d) Those presenting with skin eruptions, i.e. *shakuni.*

These afflictions are divided into curable and incurable. Incurable disorders are characterised by rigidity of limbs, refusal of breast milk, repeated spells of unconsciousness—and generally manifesting features of *graha* affliction. Curable conditions are of recent origin and symptoms are not suggestive of *graha* affliction.

Each of the *graha* afflictions is to be treated with very elaborate procedures, medicated sprinklings, anointments, medicines, fumigation, warding off and sacrificial rituals, special hymns and amulets. Dhanvantari is reported to have said that if the *dosha*s disturbed by *graha* afflictions are treated appropriately, all the associated disorders could be eliminated—leaving an optimistic note on prognosis of these illnesses.

In addition to the above (Bhattacharya 1956) the *graha* afflictions are described under the categories of what the *graha*s demand and the resultant behaviour in the children. The *graha*s (a) who want to torture or kill (b) who want to enjoy by satisfying their carnal appetites and (c) who demand ritual sacrifices produce distinct kind of symptoms.

(a) The one afflicted by the cruel *graha*s, has perpetual nasal discharge, biting of tongue, groaning in agony, sadness, shedding of tears, clearing throat with difficulty. His body emits odours and is emaciated. He handles his urine and stools and does not show aversion to it. When angry, attacks himself or

people, with hands, sticks or weapons. He may be reckless and uncaring of his safety and may jump into fire or drown himself. He is thirsty, has burning sensation of the body and bleeding of the body orifices. Such an illness is fatal and treatment should not be given.

(b) The one who is afflicted by the passionate *graha*s wants to sexually indulge in secret, talks of love, likes to wear garlands and is happy and peaceful. With treatment, this illness can be cured. These appear to be description of post-pubertal adolescent in a manic phase.

(c) The one afflicted by the *graha*s who demand sacrifices, is very meek, often touches his face, has dry lips, throat and limbs. He startles easily and is watchful of his environment. He worries and weeps a lot. He is fearful. Even when hungry he does not eat much. This illness can be cured easily. Appears to be a syndrome of depression.

To summarise, serious and often fatal disorders are attributed to seizures by supernatural demonic beings. Apart from routine treatments, warding off the evil and pacificatory rituals to the specific *graha*s are carried out.

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Appendix

Index to Sanskrit names of plants and drugs used in ayurveda and their equivalents in Hindi, English and Latin

Sanskrit	Hindi	English	Latin
Abhaya	Harra	Chebulic Myrobalan	*Terminalia chebula* Rets
Abhiru	Shatawar Shatamuli	Wild asparagus	*Asaeragus racemoses* willd
Agragrahi, Akarakarabhah	Akarakara	Pellitory	*Anacyclus pvrenthrum* DC
Ajamoda	Ajamoda	Ajowan	*Trachvspermum roxburghaianum* (DC) Craib
Akararabhah	Akarakara	Pellitory	*Anacylus pyrethrum DC*
Akshah	Baheda	Belliric Myrobalan	*Terminalia bellrica (gaertn.) Roxb*
Amalaki, Dharti	Arnala	Emblic Myrobalan Indian Gooseberry	*Phyllanthus emblica Linn*
Amlika	Imli	Tamarind	*Tamarindus indica L.*
Amra/Amrah	Am, Amb	Mango Tree	*Mangifera indica L.*
Ananta	Magrabu, Anantamul	Indian Sarsaparilla, Country Sarsaparilla	*Hemidesmus indicus* (L.) R. Br.
Araguadah, Argvadhah, Aragwadhah	Amaltas, Girimala Amalatas	Indian Laburnum Purging Fistula	*Cassia fistula* L.
Aranyaharidra (Vanaharidra)	Banaharidra Jangli-haldi	Wild Turmeric, Cochin Yellow Zedoary	*Curcuma aromatica*-Salisb
Arka	Madar	Gigantic Swallow, Mudar	*Calotropis gigantea* (L.) R. Br.
Ashokah	Ashoka	Ashoka	*Saraca asoca* (Roxb.) de Wilde
Ashvagandha	Asagandha	Winter Cherry	*Withania somnifera* (L.) Dunal
Ata	Murva		*Chonemorpha fragrans* (Moon) Alston
Atasi	Alsi, Tisi	Linseed, Flax Plant, Common Flox	*Linum usitatissimum* L.
Ativisha	Ativisha (Atisa)	Atis Root	*Aconitum heterophylum Wall*. Exroyle
Bala	Bala	–	*Sida cordifolia*
Balamula Jangalimedhi	Kharaiti	The Root of Bala	*Sida rhombifolia* L. Ssp. *Retusa* (L.) Borssum

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Sanskrit	Hindi	English	Latin
Banah Banaphunkhah	Sarphomoko Sarafonka	Wild Indigo Purple Tephrosia	*Tephrosia purpurea* (L.) Pers.
Barburah	Babul, Babur	Black Babool, Indian Gum Arabic Tree, Gum Acacia	*Acacia nilotica* (L.) Willd ex. Del.
Bel	Vilvah, Shivadrumah Shrophalah	Bael Tree, Holy Fruit Tree	*Aegle marmelos* (L.) Corr
Bharangi (also called Kharashakah)	Bharangi	–	*Clerodendron siphonanthus*
Bilva	Vilvah, Shivadrumah, Shriphalah	Bael Tree, Holy Fruit Tree	*Aegle marmelos* (L.) Corr
Brahmi, Sarasvati Andri	Barami	Thyme Leaved Gratiola	*Bacopa monnieri* (L.) Pennell
Chandanam	Chandan	Sandal	*Santalum album* L.
Chandrasura	Ahaleeva	Water Cress	*Lepidium sativum* L.; N.O. Cruciferae
Charmasahva, Saptala	Satala	Soapnut Acacia	*Acacia sinuata* (Lour.) Merr
Chavya	Chavya	Wild pepper	*Piper brachy* Stachyum Wall
Chichinadah, Svadupatolam	Patol (Parawal)	Snake Gourd	*Trichosanthes cucumerina* L.
Chincha	Imli	Tamarind	*Tamarindus indica* L.
Chipitaka	–	Poisonous nux vomica	*Strynox nux vomica*
Chocham	Dalchini	Cinnamon	*Cinnamomum verum* Presl
Choroka	Churota	–	*Gyanandlopsis gynandra* Briq
Chunnam, Sudha, Sudhakshara	Chuna	Burnt Lime/Quick Lime/Caustic Lime	Calcium oxide/Calx/ Lime ko
Chutah	Aam	Mango	*Manginefera indica* L.
Dadima moola twak	Anar	Pomegranate	*Punica granatum* L.
Daruharidra	Daruhaldi	Tree Turmeric, False Calumba	*Coscinium fenestratum* (Gaertn.) Colebr
Darulawana	Yavakshar, Javakhar	Impure or Factitious Carbonate of Potash, Impure Potash Carbonate	
Darusita	Dalchini	Cinnamon	*Cinnamomum verum* Presl
Devakusumam	Lavang, Laung	Clove Tree, Cloves	*Syzygium aromaticum* (L.) Merrill & Perry
Dhanya	Dhan, Chaval	Rice, Paddy	*Oryza sativa* Linn
Dhanyakam	Dhania	Coriander	*Coriandrum sativum*

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Sanskrit	Hindi	English	Latin
Dharti	Amala	Emblic Myrobalan, Indian Gooseberry	*Phyllanthus emblica* L.
Dhataki, Madaniyahetus	Davi, Tavi, Dhay	Fire Flame Bush, Shiranjitea, Wood Fordia	*Woodfordia fruticosa* (L.) Kurz
Dhatturah Dhusturah	Dhattura/Kala Dhattura	Thorn Apple	*Datura metel* L.
Draksha, Mridvika	Munakka	Grapes	*Vitis vinifera*
Ela	Choti Elaichi	Cardamom	*Eletaria cardamomum*
Ela, Trutih	Elaichi	Cardamom	*Eletaria cardamomum* Maton
Eranda, Panchangulah	Erandi, Erand	Castor Plant, Castor Oil Plant	*Ricinus communis* L.
Gairika	Geru, Chikmimati	China Clay	Kaolinum
Gatashokah	Ashoka	Ashoka	*Saraca asoca* (Roxb.) de Wilde
Gaurajiraka	Jeera	Cumin	*Cuminum cyminum* L.
Geru		Iron Oxide, Red Oxide	
Ghritam	Ghee	Clarified Butter (Ghee)	
Golomi	Bach	Sweet Flag	*Acorous Calamus* L.
Gopimulam	Magrabu, Anantamul	Indian Sarsaparilla, Country Sarsaparilla	*Hemidesmus indicus* (L.) R. Br.
Gudah	Gur, Gud	Treacle, Molasses, Jaggery	*Saccharum officinarum* L.
Haridra, Varavarnni	Haldi	Turmeric	*Curcuma longa* L.
Haritaki, Pathya	Harda	Chebulic Myrobalan	*Terminalia chebu la* Retz
Hingu	Hing	Asafoetida	*Ferula asafoetida* L.
Indrayava, Kalingabija	Indrajou	Kurchi seed, Conessi or Tellicherry	*Holarrhena pubescens* (Buch. Ham) Wallich ex Don
Jaipatri	Jatipatri	Mace	*Myristica pragrans* Houtt
Jambuh	Jaman ke Patte	Leaves of Jaman, Jambolan, Black Plum	*Syzygium cumini* (L.) Skeels
Jambuh	Lodh	Jaman, Jamb Lan, Black Plum	*Syzygium cumini* (Linn.) Skeels
Jatamamsi, Mamsi	Jatamamsi, Jatalasi	Spikenard, Indian Nard, Must Root	*Nardostachys gradiflora* DC
Javitri	Jatipatri	Mace	*Myristica fragrans* Houtt
Jiraka, Gaurajiraka	Jeera	Cumin	*Cuminum cyminum* Linn

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Sanskrit	Hindi	English	Latin
Kalingabija	Indrajou	Kurchi seed, Conessi or Tellicherry	*Holarrhena pubescens* (Buch. Ham) Wallich ex Don
Kantakari	Remgani, Kateli, Kattaya	Yellow-berried Night Shade	*Solanum surattense* Burm. F.
Karkatashringi Karkata	Kakadasingi	–	*Pistacia chinensis* bunge Ssp. Integerrirna (Stewart)
Karpuram, Paccha Karpuram	Karpuri	Camphor	Cinnamornum
Karpuravalli	Patta Ajwain	Country Borage, Indian Borage	*Plectranthus amboinicus* (Lour.) Spreng
Katuka/Katvi/Katu rohini	Katuka/Kurui/Kutki	–	*Picrorhiza scrophulariiflora* (P. Kurroa auct. non Royle) Pennell
Karpuravalli	Sugandhavala (Patta Ajavayan)	Country Borage, Indian Borage	*Plectranthus amboinicus* (Lour.) Spreng
Kesar	Nagakesar	Saffron	*Mesna nagassarium* (Bum. f) Kosterm
Khadira	Khair	Gum Acacia	*Acacia catechu* (Lf) Wild
Khandam, Khandasita	Khand	Sugar Candy	*Saccharum officinarum* L.
Kharasakhah	Bharangi		*Clerodendron siphonanthus*
Krishnajeeraka	Kalajira/Kalomji/Kantakrej/Kantikaranja	Fevernut, Bonduc Nut	*Caesapinia bonduc* (L) Roxb
Krishnajeeraka	Kalazira	Caraway	*Carun Carvi* L
Krtamala	Amaltas, Girimala	Indian La Burnum Purging Fistula	*Cassia fistula* L.
Kshirachampaka, Shweta Champak	Chameli, Golenchi, Gopurchamp	Pogodo Tree	*Plumeria rubra* L.
Kushthah	Kuth	Kuth, Costus	*Saussurea lappa* C.B. Clarke
Lakshmana	Bankalmi	–	*Ipomea Sepiaria* Roxb
Lakshmana	Viparita Lajjalu	Sensitive Plant	*Biophytum Sensitum* L.
Lavangam	Lavang, Laung	Clove Tree, Cloves	*Syzygium aromaticum* (L.) Metrrill & Perry.
Madaniyahetu	Davi Tavi Dhay	Fire Flame Bush Wood Forida	*Woodfordia fruitcosa* (L.) Kurz
Madhu	Madhu, Shahad	Honey	Mel
Madhurika	Saumph	Fennel	*Foeniculum Vulgare* Mill
Magadhi	Pipal, Piplie	Indian Long Pepper, Long Pepper	*Piper longum* L.

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Sanskrit	Hindi	English	Latin
Mamsi	Jatamamsi, Jatalasi	Spikenard, Indian Nard, Must Root	*Nardostachys gradiflora* DC
Mandukaparni	Brahmi	Indian Pennywort	*Centella asiatica* (L.) Urban (*Hydrocotyle asiatica* L.)
Mandukapari, Manduki	Brahmamanduki, Bemgsag	Indian Pennywort	*Centella asiatica* (L.) Urban
Manjishta, Yojanavalli	Mamjith, Majith	Indian Madder	*Rubia cordifolia* L.
Misreya	Saumph	Fennel	*Foeniculum vulgare* Mill
Maricha	Kali Mirch	Black Pepper, Pepper, Common Pepper	*Piper nigrum* Linn
Maricha	Mircha	Pepper	
Matsyandika	Gur, Gud	Treacle, Molasses Jaggery	*Saccharum officinarum* L.
Matulungah	Baranimbu, Bijaura	Citron	*Citrus medica* L.
Mulaka	Muli	Radish	*Raphanus sativus* L.
Murva Morata	Murva ki Jada	–	*Chonemorpha fragrans* (Moon) Alston
Musta, Mustaka	Nagarmotha	Nut Grass	*Cyperus rotundus* L.
Nagapushpa, Nagakesharah	Nagakeshara	Mesua, Iron-wood Tree	*Mesua nagassarium* (Burm. F.) Kosterm
Nandivrkshah	Chandani	East Indian Rosebay	*Tabemaemontana Divaricata* L.
Narikela	Narial	Coconut	*Cocos nucifera* L.
Navaneet	Makkhan	Butter	
Nidigdhika	Remangi, Kateli, Kattaya	Yellow-berried Night Shade	*Solanum surattense* Burm f.
Nimbah, Prabhadrah	Neem ki Cchal	The Bark of Neem Tree	Margosa tree, Indian Lilac *Azadirachta indica* A. Juss
Nirgundi	Samhalu, Soubhalu, Nirgandi	Five Leaved Chaste Tree	*Vitex negundo* Linn
Nisha	Haldi	Turmeric	*Curcuma longa* L.
Pacha Karpuram	Karpuri	Camphor	*Cinamum camphora*
Padmagandhi	Padmak, Patrnakah	Himalayan Wild Cherry, Bird Cherry	*Prunus cerasoides* D. Don
Padmakah, Padmagandhi	Padmak, Patrnakath	Himalayan Wild Cherry, Bird Cherry	*Prunus cerasoides* D. Don
Palandu	Piyaja	Onion	*Allium cepa* L.
Palashah, Palaksh	Palasha (Dhak) ki Jad	Flame of the Forest, Bastard Teak	*Butea monosperma* (Lam.) Taub
Palankash	Guggalu	Indian Bdellium	*Commiphora Wighlii* (Am) Bhad

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Sanskrit	Hindi	English	Latin
Palinidi Shyamala	Kalidhudhi, Dudhi	Black Creeper	*Ichnocarpus frutescens* R. Br.
Panchangulah	Erandi, Erand, Eranda	Castor Plant, Castor Oil	*Ricinus communis* L.
Parpatah, Parpatakah	Pittapapada, Pittapapda	–	Fumaria indica (Hassk) Pugley or *Hedyotis corymbosa* (L.) Lam
Pippali	Pipal ke Chaval	Seeds of Indian Long Pepper	
Priyalah	Chirounji	Almondette	Buchania latifolia
Pudina, Putiha	Pudina	Peppermint	*Mentha arvensis* L.
Rajika	Sarson, Rayi	Indian Mustard	Brassicajuncea Czem & Coss
Ralah	Ral	The Resin of Indian Dammer	Shorea robusta Gaertn. F.
Rasanjanam	Rasouta	Rasot	Berberis aristata
Rasna, Sugandhamula	Rasna	Greater Galangal, Java Galangal	*Alpinia galanga* (Linn.) Willd
Rasona	Lahasun	Garlic	*Allium sativum* L
Saindhava Lavana	Sendha Namak	Rock Salt	Sodium chloride Impura
Sajikakashara	SaffKhar	Soda Carbonate	Sodium chloride Impura
Saptala, Charmasahva	Satala ki Chhal	Soapnut—Acacia	Acacia sinuata (Lour.) Merr
Sarasvati	Barami	Thyme Leaved Gratiola	*Bacopa monnieri* (L.) Pennell
Saribha	Magrabu, Anantamul	Indian Sarsaparilla, Country Sarsaparilla	*Hemidesmus indicus* (L.) R. Br.
Sariva	Anantarul	Indian Sarsaparilla	*Hemidesmus indicus* (L.) R. Br.
Sariva	Kalidudhi, Dudhi	Black Creeper	*Ichnocarpus frutescens* R. Br.
Sarjah, Sarjarasa, Sajakarnah	Saphed Damrnar, Kahruba	Indian Copal Tree, Piney Varish Tree, White Dammar	*Vateria indica* L.
Sarpunkhah	Sarphomoko	Wild lndigo Purple	*Tephrosia purpurea* (L.) Pers
Sarshapah Rajika	Sarson, Rayi	Indian Mustard	Brassica juncea Czern. & Coss
Sevya	Khas	Vetiver, Khas-Khas, Khus-Khus	*Vetiveria zizanioides* (L.) Wight
Shalaparni	Shalaparni		*Pseudarthria viscida* (L.) Wight & Arn

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Sanskrit	Hindi	English	Latin
Shalaparni	Serivan	Unifoliate Ticktree Foil	*Desmodium gangeticum* (L.) DC
Shali	Dhan, Chaval	Rice, Paddy	*Oryza sativa* L.
Shatavan	Shankha Bhasma	Conch Shell Ash, Silicate of Magnesia	Tubinella rap a or Xanchus pyrum Gastro or Poda
Shankhapushpi	Shankhapushpi	Canscora	*Canscora decussata* (Roxb.) Schult
Shankhabhasma	Shankhabhasma	Conch Shell Ash, Silicate of Magnesia	Tubinella rapa Xanchus pyrum Gastro Poda
Sharapunkha	Sarafonka	Wild Indigo/Purple Tephrosia	*Tephrosia perpuria* Li. Perse
Shivadrumah	Belagiri	Bael Tree, Holy Fruit Tree	Fruit of *Aegle marmllos* (L.) Corr
Shriphala	Belagiri	Bael Tree, Holy Fruit Tree	Fruit of *Aegle marmllos* (L.) Corr
Shatapushpa	Soya	Dill, Garden Dill, Anet	*Anethum graveolens* L.
Shunti, Vishvabheshajam	Sontha	Dry Ginger (Root)	Zongiber officinale Rose
Shweta Champaka	Chameli, Golenchi, Gopurchamp	Pogoda Tree	*Plumeria* L. *Tubra* L.
Sirphal	Vilvah, Shivadrumah, Shrithalah	Bael tree, Holy Fruit Tree	*Aegle marmelos* (L.) Corr
Sugandhamula	Rasna	Greater Galangal, Java Galangal	*Alpinia galanga* (L.) Willd
Sugandhavalakam	Sugandhabala, Patta Ajavayan	Country Borage, Indian Borage	*Plectranthus amboinicus* (Lour.) Spreng
Sugandhi	Magarabu Anantamul	Indian Sarsaparilla, Country Sarsaparilla	*Hemidesmus indicus* (L.) R. Br.
Sugandi Mullah	Khas	Vetiver, Khas-khas, Khus-Khus	*Vetiveria zizanioides* (L.) Nash
Surasah	Kala Tulsi	Holy Basil, Sacred Basil	*Ocimum tenuiforum* L.
Svadupatolam	Patol, Parawl	Snake Gourd	*Trichosanthes cucumerina* L.
Svarnapatri	Hindisana	Senna	*Cassia senna* L.
Talsapatrarn	Talisapatra	East Himalayan Silver Fir	*Abies spectabilis* (D.Don.) Mirb
Tarnal Patram Nees	Tejpat	Indian Cassia Lingea, Cassia Cinnamon	*Cinnamomum tamala* (Buch. Ham.)
Tambul	Pan	Betel Leaf	*Piper Betle* L.
Tanduliyah	Kateli ke Phool ki Kesar	Stemens of Prickly Amaranth	*Amaranthus spinosus* L.
Tankana	Suhaga	Borax	

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Sanskrit	Hindi	English	Latin
Tilah	Til	Sesame, Gingelly	*Sesamum indicum* L.
Tindukah	Tinduka (Tendu)	Gaub Persimon Indian Persirnon	*Diospyros malabarica* (Desr.) Kostel
Tinduki			
Trivrit	Kali Nisota	Stem of lndian Jalap, Turpeth	*Oper culina turpethum* (L.) Silva Manso
Trutih	Elaichi	Cardamom	*Elettaria cardamomum* Maton
Tulasi	Kala Tulsi	Holy Basil, Sacred Basil	*Ocimum tenuiflorum* L.
Tvak	Dalchini	Cinnamon	*Cinnamomum verum* Presl
Ugragandha	Saphed Bacha, Bacch, Gorbacch	Sweet Flag	*Acorus calamus* L.
Ulpala Sariva	Kalidudhi, Dudhi	Black Creeper	*Ichnocarpus frutescens* R. Br.
Urihi	Dhan, Chaval	Rice, Paddy	*Orysa sativa* L.
Ushirah	Khas	Vetiver, Khas-Khas, Khus-Khus	*Vetiveria zizanioides* (L.) Nash.
Vacha	Saphed Bacha, Gorbacch	Sweet Flag	*Acorus calamus* L.
Vamsarochana	Bansalochana	Bamboo Manna	*Bambusa arundinacea* (Retz.) Willd
Varahakarni	Asagandha	Winter Cherry	*Withania sornnifera* (L.) Dunai
Varavarnini	Haldi	Turmeric	*Curcuma longa* L.
Vasa	Arusha	Malabar Nut	*Justicia adhatoda* L.
Vasha	Adusa	–	*Justicia beddomei* (Clarke) Bennet
Vavari	Babul, Babur	Black Babool, Indian Gum Arabic Tree, Gum Acacia	*Acacia nilotica* (L.) Willd. ex Del.
Vellah	Vayuvidanga, Vayvidamg, Bhabhiramg	Embelia	*Embelia ries Burm*. F.
Vibhitakah	Baheda	Belliric Myrobalan	Terminalia be II irica (Gaertn.) Roxb
Vidangah, Vidangam	Vayuvidanga, Vayvidamg, Bhabhiramg	Embelia	Embelia ries Bunn. F.
Vilvah, Shivadrumah	Belagiri	Bael Tree, Holy Fruit Tree	Fruit of *Aegle marmalos* (L.) Corr.
Vishamushtih	Vishadodi	Goat Weed, Appa Grass	*Ageratum conyzoides* L.

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Sanskrit	Hindi	English	Latin
Vishvabheshajam	Sontha	Dry Ginger (Root)	*Zingiber officinale* Rosc
Vrishi	Dhan	Paddy, Rice	*Oryza sativa* L.
Yashthi Madhu	Mulaithi	–	*Glycyrrhiza glabra* L.
Yavah	Jav, Jau	Barley	*Hordeum vulgare* L.
Yavani	Ajwen, Ajumd, Ajovan, Randhuni	Ajowan, Carum, Bishop's Weed	*Trachyspennum ammi* (L.) Sprange
Yavakshara	Shora, Sora, Shorakhar		Saltpetre, Nitre, Potassii Carbonas Impura, Potassium Carbonate, Nitrate of Potash, Purified Nitre
Yojanavalli	Mamjith, Majith	Indian Madder	*Rubia cordifolia* L.

Source Kapur and Mukundan (2002)

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Part II
Indigenous Systems of Medicine: Unani Medicine (Altib)

Chapter 7
Basic Principles of Unani System

The word Unani owes it origin the Greek word Ionia in Greece. Unani medicine owes its origin to Greek and Egyptian medicine. Among the early Greeks, temples of healing to Aesculapius and his children Hygeia and Panacea date back to 1000 BC (Guthrie 1920). However, the origin of Greek medicine is attributed to Ionian philosophers and to Hippocrates in particular.

7.1 Origin of the Unani System of Medicine

According to Subbarayappa (2001), Islamic medical literature was compiled by Zakaria Razi[1] in 865–925 AD. He incorporated ideas and practices of noted earlier physicians as well as Ayurveda.

After critically examining the works of Hippocrates, Galen and al-Razi, al-Majusi, a Zoroastrian physician, compiled two medical texts, focussing on theoretical and practical aspects. Subsequently, the most prominent canon of medicine was put togethers[2] in 980–1037 AD by Ibn Sina (known as Avicenna in Europe). This emerged as the authority on Islamic medicine. This canon of medicine influenced not only Europe but also India. By the twelfth century, Greek-Arabic medicine had undergone further improvement modification and systemisation by Arabic medical writers and the system also came to be called Unani due to its Greek origins. In the Unani system, there are seven components. The elements are four in number and constitutions are of four kinds.

The Unani system got integrated into traditional medical systems that existed in Egypt, Syria, Iraq and Persia and subsequently in India and China. Arab physicians like Razes compiled the *Kitab al-Hawi*, a comprehensive book on medicine,

[1]See Footnote 2 in Chap. 1 of this book.
[2]See Footnote 2 in Chap. 1 of this book.

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and Ibn Sina (Avicenna 980–1037) also built a strong edifice of Unani medicine: one of his most famous medical texts was *Al-Qanun Fial-tibb*. This medical system is practised in different parts of the world under different names such as Graeco-Arab medicine, Ionian medicine, Arab medicine, Islamic medicine, traditional medicine and oriental medicine.

In India, the Unani system was introduced by Arabs and Iranian traders and it took firm roots in different parts of India. When the Mongols invaded Persia and Central Asia, the scholars and physicians escaped to India. The royal courts of the Delhi Sultanate and Mughal emperors offered patronage to them. Between the thirteenth and seventeenth centuries, the Unani system was at the peak of its glory. In India, those who knew Urdu especially in the north, non-Muslim *hakim*s, too, contributed immensely to strengthening the foundation of Unani in India. Families of Indian *hakim*s such as Rahaman (2001) are recognised for their immense contribution in the development of Unani system in India.

Muslims entered in India as early as the seventh century AD but by the eighth century ruled in the Sindh province. Around the twelfth century with larger areas coming under Muslim rule, the first Unani court physician was appointed. The development of Unani in India may be divided into four periods (Azmi 2001). These are (i) the Sultanate period (1206–1526 AD); (ii) the Deccan period (1527–1686); (iii) the Mughal period (1526–1707) and (iv) the post Mughal period (1707–1858). By 1377, the medical complications of Unani had borrowed extensively from Ayurveda. At this time, the local superstitious and talismans as treatment got incorporated into the Indian Unani system. These were well-known Hindu *hakim*s who practised Unani medicine.

The physicians, who settled in India, experimented with the native medical systems and established sound traditions of Unani in India. Ayurvedic drugs were added to their system, thus enriching it. The Unani system flourished all over India even after the downfall of the Mughal Empire. It suffered a setback during the British rule. But it survived due to strong support in some quarters. An outstanding scholar and a physician, Hakim Ajmal Khan (1868–1927) championed the cause of the system. The Hindusthani Dawa Khana and Ayurvedic and Unani Tibbia College in Delhi are the glowing examples of his immense contribution to the twin development of both the system of medicine namely, the Unani and Ayurveda. Since independence, all the indigenous systems were given the impetus for their promotion particularly through an Act of Parliament in 1970. The Department of AYUSH is responsible for the promotion of all the indigenous medical systems in India and is supported by the Indian government.

7.2 Fundamental Concepts in Unani

According to Ibn Sina, Tibb (medicine) is the knowledge of states of human body in health and decline in health: its purpose is to preserve health and endeavour to restore it whenever lost. Ibn Sina gives Graeco-Arab medicine much wider scope by including the subject of health than what is available in the Western medical system.

The Graeco-Arab system is based on the Pythagorean theory of four proximate qualities—hot, cold, wet and dry elements (*arkan*) and the Hippocratic theory of four humours (*akhlat*): blood, phlegm, yellow and black bile. The temperaments associated with the humours are sanguine, phlegmatic, choleric and melancholic.

Aetiological speculations in Unani are: material, efficient, formal and final. The four parts are described below (AMBZ 1991; Rushd 1987; Sina 1998; Ibn Zuhar 1986; Hubal 2005; Baghdadi 2005; Jurjani 2010; Majoosi 2010; Mishra 2001; Tabari 2002; Zaidi 1963).

7.2.1 Material Causes

Material causes (*maaddi*) are substances and energies on which health and diseases are based (Fig. 7.1).

The above, though initially diverse, act in an unified and holistic manner (*wahdat*) with specific temperament and morphology.

7.2.2 Efficient (F'lia)

These causes either present or induce changes in the body. These are:

(a) Different types of airs, etc.
(b) Food, water and other drinks
(c) Retention and evacuation
(d) Habitual: residence, etc.
(e) Rest and activity: both physical and psychological
(f) Sleep and wakefulness
(g) Different periods of life and variations
(h) Sex variations
(i) Occupation
(j) Habits
(k) Inimical things that comes to external contact with the body

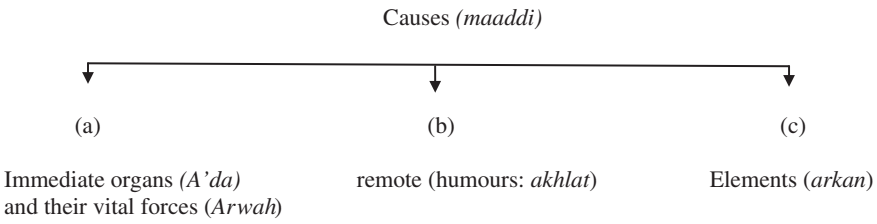

Fig. 7.1 Material causes of health and disease

*7.2.3 Formal (*Souriya*) Causes in Health*

Temperaments (*mizajat*), faculties (*Quwa*) and structures (*Tarkeeb*).

*7.2.4 Final (*Tamamiya*) Causes and Functions*

Tab'iyat (*nature of the body*).

The purpose of Unani medicine is to asset natural recuperative power and disperse or eradicate disease from the body. It is in the nature of the body, *tab'iyat*, to spontaneously remove the morbid matter through sweating, urination and defecation. *Tab'iyat* are:

(a) *Al-Arkan* (pillars or elements)
(b) *Al-Mijaz* (temperament)
(c) *Al-Akhlat* (humours—body fluids)
(d) *Al-A'da* (organ members)
(e) *Al-Arwah* (pneuma— vital spirit)
(f) *Al-Quwa* (faculties and powers)
(g) *Al-Af'al* (functions)

7.3 Elements

The elements are four in number. These are earth, water, air and fire. The earth represents solids, water represents liquids, the air represents gases and the fire represents the heat of the body. These are natural entities. These are not the term 'elements' as referred to in modern physics or chemistry. The four qualities are: air is hot and moist, fire is hot and dry, water is cold and moist and earth is cold and dry.

7.4 Temperaments

When the elements mix and interact with each other qualitatively and quantitatively, positive modified by the negative, there emerges a compound with the quality called temperament. These are eight varieties of temperaments under normal conditions. These are:

- General pattern of the species
- Specific pattern of the species
- General pattern of the race

- Specific pattern or the race
- General pattern of the individual
- Specific pattern of the individual
- General pattern of the organ
- Specific pattern of the organ

Under the state of imbalance, the eight are described as below. Those containing excess of the single qualities are simple (*mufrad*) and four of the excess of dual qualities are considered compound (*murakkab*). These can be without morbid matter (*sada*) or with morbid matter (*maaddi*).

7.4.1 Temperament of Drugs

The drugs too are described in terms of temperament similar to that of human beings such as hot, cold and so on. Individuals may differ in their response to the temperament of the drugs.

7.4.2 Temperament of the Organs

Each organ has temperament in time with its nature, functions and conditions. Hottest parts of the body are muscles, spleen, kidneys, etc. The coldest are hair and bones and the most moist are blood, fat, brain, etc. Most dry are the bones, ligaments, etc.

Temperaments vary according to age and gender. The life span is divided into four periods.

(a) Growth up to 30 years
(b) Maturity 35–40 years
(c) Middle age up to 60 years
(d) Senility

The period of growth is divided into five stages: infancy, childhood, boyhood, adolescence and youth.

7.5 General Description of Diseases

Diseases are divided into two kinds: Simple and complex. Humoral balance is essential for health. The aim of the medicines is to bring about the humoral and ecological balance.

7.5.1 The Diagnosis

The diagnosis is based on examination of the pulse, urine and stools. The treatment is based on the temperament and balance of the elements. The body temperature is examined through the pulse and urine examination to determine the kidney, liver and digestive functions. Close observation of eyes, lips, teeth, throat and tonsils are carried out. Mental status too is noted.

After the diagnosis, *uslooleilaz* (principle of management) is based on the aetiology is as follows:

- *Izalae Sabad* (elimination of cause)
- *Tadule Akhlat* (normalisation of humours)
- *Tadeeleaza* (normalisation of tissues/organs)

7.5.2 Prevention of Disease

The influence of the environment on the body was well understood in the Unani system. It has laid down six essential systems for the prevention of diseases.

1. Maintenance of proper ecological balance
2. Keeping water, air, food and drinks pure
3. Bodily movement and repose
4. Psychological movement and repose
5. Sleep and wakefulness
6. Excretion and retention

7.5.3 Therapeutics

Under the system, following methods are adopted: (1) Regimental therapy (*Illaj bil—Tadbur*); (2) Diet (*Illaj bil Ghija*); (3) Pharmaco therapy (*Illaj bil Dawa*) and (4) Surgery (*Jarahat*). Regimental therapy includes venesection, cupping, diaphoresis, diuresis, Turkish bath, massage, cauterisation, purging, emesis, exercise, leeching and so on. Diet aims at treating some ailments by advising specific diets or by regulating the quantity or quality of food. Pharmacotherapy uses naturally occurring drugs, mostly herbal but also drugs of mineral and animal origin. But at present, single drugs or combination of preferred. Crude forms of surgeries were originally conducted; however, currently only minor surgeries are conducted as part of Unani treatment. There is stress on the temperament of the patient and the drug administered accordingly accelerating speedy recovery and eliminating adverse reaction to the drugs. Rahman (2013) succinctly quotes Hakim Jalal:

"A Unani physician does not prescribe the strongest drug in the beginning of the treatment. He selects the drug accordingly to variation from the normal healthy condition and observes effect produced by the treatment. At the same time, he instructs the patient to observe some restrictions in diet and lifestyle".

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Chapter 8
Developmental Approach to ChildCare

According to Hussain (2005) genetic factors such as phenotype race, gender, characteristics of parents, maturation and environmental factors pre and post-natal periods, nutrition, infection, climate, emotional and cultural factors affect growth and development.

According to classic Unani literature, human beings originate from *mani* of male and female partners (sperm and ovum). The process of ageing starts at birth and ends with death. Ageing has received a great deal of attention in the Unani system (Malik et al. 2013). Beyond this, foetal development has not received much attention. However, there is considerable discussion on care of the pregnant and nursing mother. The *Tadabeer-e-Haamla* provides detailed description of anti-, intra- and post-natal care. Presumptive and confirmatory signs of pregnancy, common ailments of pregnancy such as morning sickness, loss of appetite, oedema, constipation, delayed labour, habitual abortion, vaginal bleeding, palpitations and their treatments are described.

Diet and supplements consisting of light, nutritious and easily digestive food must be given. Small and frequent meals and fruit are advised. Food that has adverse effects is listed. Foods that cause humoral imbalance and poor digestion are to be avoided.

In addition, adequate sleep/rest, baths though contraindicated in the first and third semester but is advised near the full term of pregnancy. Near the term, massage on the back and abdomen with medicinal oil is advised. For all the common ailments mentioned earlier, appropriate drugs and diets are advised. There are single drugs for the above conditions.

The importance of child health had been recognised by many of the ancient Unani physicians. Jalinoos (129–200 AD) and others had suggested that salt be

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sprinkled over the body. Rabban Tabri (770–850 AD) advised moderate exercise and light diet. At a particular stage of learning, wrestling may be taught. Children should have hot baths. Children should be prohibited from liquor as it affects the brain adversely. Zakaria Razi (865–925 AD) advised against excessive fruit, cheese, sweets, milk and heavy food as these cause vesicle calculus in children. Ali Abn Abbas Majoosi (930–994 AD) advised that after the lactation age the child should be given diet after bath in lukewarm water. Sweets made of wheat and sugar should not be given.

Ibn Sina (980–1037 AD), or Avicenna as he was known in the West, gave details of child development in the four chapters of *Al-Qanun Fial Tibb.* The first chapter dealt with the management of the newborn till the age when the child starts walking. In the second chapter, he has described breast feeding and characteristics of a good wet nurse. In the third chapter, he described diseases such as diarrhoea, worms, sleep disorders, cough, cold, throat tumours, vomiting, hiccoughs, abdominal cramp, earache/discharge, crying and rectal prolapse. In the fourth chapter, he has described development till adulthood and also about the education of children. In the above treatise, diseases such as bedwetting, convulsions, measles, small pox and congenital deformities in the paediatric populations find a mention.

Ibn Hubal Baghdadi (1122–1213) had advised light and nutritive food and mild exercise to be increased gradually as the child grows older. The child should be given bath in clean and fresh water and mild activities given before giving food. Massage was advised. Children were prohibited from eating non-nutritious diets and recommended that they should be brought up with good habits.

Ibn Rushd (1126–1198 AD) gave regimens for proper child development from newborn stage to adulthood. As the child wakes up in the morning, he should be given mild exercise followed by massage and hot bath. After that, food of good quality and moderate in quantity should be given. The same routine should be followed in the afternoon if the child is hungry. Hypnotic substances were prohibited. During epidemics, intake of all fruit and meat was prohibited as they cause infections (Baghdadi 2005; Jurjani 2010; Majoosi 2010; AMBZ 1991; Rushd 1987; Sina 1993; Tabari 2002).

8.1 Care of Pregnant Women in Unani Medicine

In Unani medicine, care of pregnant women is discussed under the heading of '*Tadabeer-e-Haamla*'. There is detailed description of antenatal care as well as intrapartum and postpartum care. Presumptive and confirmatory signs of pregnancy and the common ailments in pregnancy such as morning sickness, loss of appetite, oedema, constipation, delayed labour, habitual abortion, bleeding per vagina palpitation and their treatment are also well explained.

1. Cessation of menses.
2. Engorgement of breasts.

3. Craving for unusual articles of food especially in 2nd or 3rd month.
4. Nausea and vomiting.
5. Loss of appetite.

8.1.1 Signs of Pregnancy

For confirmation of pregnancy, lbn Sina has mentioned that two spoons of honey should be given to women, and if she complains of spasms in stomach, it means she is pregnant.

8.1.2 Diet and Supplements

The diet of pregnant women should be light, nutritious and easily digestible food such as chicken, mutton, half-boiled egg. She should be advised to take frequent meals in small quantities. Fruits like sweet lime, orange, pears, pomegranate, etc., are advised. Foods which have emmenagogue and diuretic effects like *kulthi* (horse gram)*, lobiya* (black-eyed peas)*, kibr* (lupine seeds)*, turmus* (olive) should be avoided as they may cause abortion. Foods which are difficult to digest and produce gases and bad humours should also be avoided.

8.1.3 Sleep and Rest

The patient may continue her usual activities throughout pregnancy, but hard work should be avoided especially in first trimester and last 6 weeks of pregnancy. Duration of rest and sleep should be increased in pregnancy.

8.1.4 **Hammam** *(Bath)*

According to Ibn Sina, *hammam* is contraindicated to pregnant women in the first and third trimester, while Zakariya Razi has mentioned in *Kitabul Mansoori* that near term, pregnant should stay in *hammam* for at least 1 h.

8.1.5 **Dalak** *(Massage)*

Near term, pregnant should be massaged on back and abdomen with medicinal oils.

8.1.6 Common Ailments of Pregnancy

There are treatments for emesis, loss of appetite, constipation, palpitation, vaginal bleeding, oedema, habitual abortion and so on.

8.2 Care of the Newborn Infant

Under the Unani system, the following practices are advocated.

8.2.1 Care of the Umbilical Cord

Immediately after birth, the umbilical cord should be cut at a point four fingers breadth from the umbilicus tying it with a clean soft woollen thread and lightly twined that it does not cause any injury. The end of the cord is dressed with a clean piece of cloth soaked in olive oil. To assist healing, the cut surface should be dusted with a fine powder made of equal parts of turmeric, dragon's blood (a resin from dark-red plant product), cumin seed and lichen. When the cord is separated it generally happens in 3 to 4 days, the navel is dusted with the ashes of oyster shell, burnt tendon of a calf's heel, or burnt zinc dissolved in alcohol. Puerperal tetanus as a complication of difficult labour has been described.

8.2.2 Breastfeeding

The baby should be nourished, as far as possible, with the mother's breast milk. Having received its nourishment in the womb from her menstrual blood, the mother's milk, which is really another form of the same, is naturally the most suitable for the further growth and development of the baby. It is generally observed that the baby gets readily quietens after receiving the mother's breast. If the milk is inclined to be sour, breast feeding should be avoided. A small quantity of milk should be squeezed out before each feed and especially before the morning feed. This helps the flow of milk and saves the baby from unnecessary strain and exertion. Massage of the breasts enhances the production of milk. The nursing mother should take moderate exercise and eat wholesome food. A little crying before the feeds is generally beneficial to the baby. Vegetables such as watercress, mustard, wild basil, and to some extent, even mint are best avoided by the mother as they are not good for lactation. The nursing mother should take plenty of rest and avoid work and excessive exercise. If there is no contraindication, she should drink sweet wines and grape juice and have plenty of sleep.

8.2.3 Wet Nurse

When for the reason of health or because of some abnormality in the milk, or for the sake of her own comfort the mother herself is unable to nurse the baby, a wet nurse should be employed. This wet nurse should be suitable in respect to her age, physique, shape of breasts, quality of her milk and the time elapsed since her confinement. The nurse's own baby should neither be quite grown up, nor less than 1 or 2 months old.

It would be the best if her own baby is also of the same age as her charge. Her age should be between 25 and 35 years, when women are at the height of their youth and vigour. Her milk should be moderate in quantity and consistency. It should be white rather than dark and never greenish, yellowish or reddish in colour. The odour should be agreeable and not acrid or pungent. The taste should be sweet and not bitter, salty or sour. It should be homogeneous and plentiful and not too watery nor too thick, cheesy or frothy. The nurse should be cheerful and of good moral character and not liable to emotional outbursts of anger, grief or fear which tend to undermine character and affect the baby adversely in other ways. It is for the same reason that the Holy Prophet prohibited the employment of mentally deranged women as wet nurses. A nurse of bad character cannot be trusted to give conscientious care of the baby.

The nurse should take moderate exercise and eat wholesome food like wheat, frumenty,and lamb, kid of goats which are not putrescent or have hard flesh. She should abstain from sexual intercourse during the nursing period, as this activates the menstrual blood and makes the milk foul and reduces its quantity. It may also lead to new pregnancy which would be injurious both to the baby at the breast and the foetus in the womb. The baby suffers because the mother's blood gets diverted towards the foetus and the foetus suffers from inadequate nutrition as it has to be shared with the baby.

8.2.4 Swaddling

The nurse should handle the limbs gently and mould the various parts according to their shape, spreading out those which should be flat and thinning the ones which are to remain slender. The head should be covered with a light turban or a properly fitting cap.

8.2.5 Eyes

The eyes should be carefully wiped with a soft, silken cloth. A few drops of olive oil should be dropped in the eyes.

8.2.6 Bathing and Skin Care

The face and body of the newborn should be bathed in salt water. Care should be taken to protect the nose and mouth while washing the face. Bath is best given after a spell of sound sleep and there is no harm if it is repeated two or three times a day. In summer, the water should be tepid and in the winter lukewarm. The skin of the baby should be cleansed as early as possible with saline water so as to tone up the skin and set the features. In order to improve the astringency of the saline, a small quantity of Indian hemp seeds, costus root, sumac, fenugreek and origanum should be added to it. Care should be taken to prevent the saline entering into the baby's nose and mouth. The skin needs hardening because the body of newly born baby is warm and delicate and anything which comes in contact with it feels cold and rough.

8.2.7 Sleeping Quarters

The nursery should be warm and airy, but dark and shady rather than bright and full of glare. During sleep, the head should be kept slightly elevated and care taken to avoid twisting the body.

8.2.8 Weaning

When the incisor teeth begin to emerge, milk feeds should be gradually supplemented with things which are not too hard and difficult to masticate. A normal period of nursing should be 2 years.

8.3 Care of the Child

The Unani scholars have mentioned in their texts that, besides preventing the child from any illness or diseases, attempts should be made to create or develop good behaviour in the children. Ibn Sina was also concerned at this stage with the child's sensory and motor development and with moral and emotional training. Ibn Sina was very much concerned with games at this age, as well as in primary education. He showed the role of exercise in education and its necessary place in the child's life, and explained that exercise differed according to age, and also with the child's ability. He mentioned that when the child passes age of 4 years, the child should be left free to play and the quantity of diet should be increased. A watch should be on the temperament. The child's natural desires should be fulfilled and

the causes of irritation should be removed. Properly balanced behaviour is conducive to both physical and mental health.

When the child is 6-years old, the child should be sent to a teacher or instructor. Care should be taken to adopt a progressive system and not burden the child with books all at once.

Children should be allowed to drink as much of cold, sweet and pure water as they like. The same regimen should be continued up to the age of 14. But at the same time, day-to-day changes should be considered according to the moisture and hardness of the body. Regimen applied should be for the development of child and preservation of health.

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Chapter 9
Diseases of Children and Some Common Treatments

The description of diseases of children is almost same in all classical Unani texts, but here we focus on *Al-Qanun Fial Tibb* as an encyclopaedia of Unani medicine (Hubal 2005; Hussain 2005; Sina 1998; Zuhar 1986).

In the treatment of infants, the first consideration should be given to the management of the wet nurse. Thus if there is any sign of excessive blood in her, cupping or venesection should be carried out. When there is predominance of some humour, appropriate measures should be taken to eliminate it. Constipation, diarrhoea, ascent of vapours to the head, disturbances of respiratory system and abnormalities of temperament should be corrected by regulating the food and drinks of the woman suckling the baby. If she is purging or she happens to develop diarrhoea or vomiting or she has taken any purgative or emetic, the baby should be nourished that day by some other woman.

9.1 Teething

Inflammation of gums, swelling of the temporal region and trismus are common during dentition. In these cases, the swollen area should be gently pressed with the fingers and massaged with oil described in the chapter of dentition. In addition, honey mixed with oil of chamomile or turpentine resin is used. Decoction of dill should be freely poured over the head from a height.

9.2 Diarrhoea

Diarrhoea is particularly common during dentition. According to some physicians, diarrhoea is due to indigestion caused by swallowing salty purulent matter from gum along with the milk. This however does not appear to be a valid reason, the

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real cause may well be that the system occupied in erupting the teeth is unable to digest the food properly. Diarrhoea may be caused by pain in the gums interfering with digestion.

A mild attack of diarrhoea does not require any special treatment; the body can cope with it easily. When it is profuse, foments made of the seeds of rose, celery, anise or cumin should be applied to the abdomen or a plaster of cumin seeds and rose seeds made up with vinegar or millet seeds boiled in vinegar are applied to abdomen. If these treatments fail, a small quantity of rennet from the stomach of newborn lamb dissolved in cold water should be given. Since milk gets curdled in stomach, a suitable substitute such as yolk of a half boiled egg, soft bread or barley flour cooled in water should be given.

9.3 Constipation

Sometimes children develop constipation. This is treated with a suppository made of pure solidified honey or honey mixed with a small quantity of wild mint, or plain or burned lily root. Honey is given by mouth and olive oil containing turpentine resin as much as a gram seed is gently rubbed over the abdomen. Maiden weed and ox bile can also be applied to the navel.

9.4 Gingivitis

When the gums are inflamed, they should be massaged with oil containing wax. Salted meet is also useful of rubbing on the inflamed gums.

9.5 Infantile Convulsions

A powder made of equal parts of castoreum, origanum and cumin seeds in dose of six gram is very beneficial for convulsions.

9.6 Convulsions

Convulsions are particularly common during the teething period and result from the nervous instability and digestive disturbances generally associated with this period of life. They are more common in children with moist and robust constitutions. They are treated by rubbing the body with oil of iris, lily, henna or gillyflower.

9.7 Rigidity

Sometimes children develop rigidity. This should be treated with a decoction of squirting cucumber oil or cucumber mixed with oil of violets. If rigidity develops insidiously or is due to dryness, fever or severe diarrhoea, joints should be massaged with violet oil, pure or mixed with wax. Violet oil or olive oil is also applied to the head freely. If the baby suffers from dry type of rigidity, the treatment should be same as mentioned above.

9.8 Cough

When there is cough or cold, hot water should be poured freely over the head, and after smearing the tongue thickly with honey, the back of tongue is pressed with a finger to induce vomiting. This assists the expectoration of phlegm and relieve cough. Gum acacia, gum tragacanth, powdered quince seed and extract of liquorice mixed with sugar are given daily with small doses with fresh milk.

9.9 Dyspnoea

Dyspnoea is treated with emesis, which is induced by rubbing olive oil over root of the tongue or by simply pressing the root of tongue with a finger. Sometimes drinks of warm water also produce vomiting. Linseed mixed with honey is used as linctus.

9.10 Stomatitis

This is common amongst infants because the mucous membrane of mouth and tongue is extremely delicate that even the suckling of milk produces irritation. When the irritation is caused by milk aphthous stomatitis tends to occur. The worst type of stomatitis consists of black gangrenous ulcers which generally prove fatal. White and red ulcers are however not so serious. Stomatitis is treated with powdered violets alone or mixed with roses and a little saffron may be applied. Occasionally carob beans are also effective. Nightshade juice, juice of lettuce or purslane juice may be needed. If the condition proves resistant, braised lily root should be used. If gums are ulcerated, myrrh, galls and scales of olibanum thoroughly ground and mixed with honey should be painted. Sometimes thick juice or a paste of sour mulberries or sour grapes is applied. It is often helpful to first rinse the mouth with honey water, honey syrup or wine, and then apply the astringent

remedies mentioned above. When a more powerful remedy is needed, a powder made of six each of turmeric, blossoms and rind of pomegranate and sumac, four drams of galls and two drams of alum mixed and powdered together is used for dusting the mouth. Ulcerative stomatitis is treated with mild astringents but when the mouth becomes dirty and looks unhealthy some strong medicine should be used. The mouth is washed with a solution of borax mixed with a small quantity of milk to prevent irritation.

9.11 Ear Discharge

This is a common complaint because in children, body and more particularly as the brain is full of moisture. This condition is treated by dressing the ear with a wick dipped in honey or wine (spirit) containing a small quantity of alum, saffron or nitre. Sometimes a piece of linen soaked in astringent wine containing saffron is kept in the discharging ear.

9.12 Ear Ache

Occasionally, children develop earache from *reeh* or dampness. This is treated with oil in which barberry, rock salt, lentil, myrrh, colocynth seed or juniper is boiled and filtrated.

9.13 Meningitis

There is hot type of inflammation of brain known as *Uttash.* The pain from it spreads to the throat to the eyes and makes the complexion pale yellow. In order to deal with it, the head should be treated with cooling and moistening measures. Fresh peelings of cucumber and pumpkin, juice of green night-shade, juice of fresh purslane which is particularly beneficial for this condition and rose oil mixed with a small quantity of vinegar or yolk of egg mixed with rose oil are used externally but whatever is applied should be changed frequently.

9.14 Conjunctivitis

Barberry mixed with milk should be painted over the lids, and later on the eyes are bathed with decoction of chamomile and juice of wild basil.

9.15 Corneal Ulcer

Sometimes excessive crying produces corneal ulceration with white opacities. These are treated by applying juice of green nightshade. Eyes swollen from excessive crying are also treated in the same manner.

9.16 Fevers

Fever is treated best by attending to wet nurse. Both the baby and the nurse should be given remedies like pomegranate juice mixed with syrup of vinegar and honey or cucumber juice mixed a little camphor and sugar. Sweating is induced by applying juice of fresh bamboo leaves to the head and feet and covering the baby with warm clothing.

9.17 Colic

This is cause by the bad milk and the diarrhoea of indigestion. It is generally quite distressing and makes the baby cry and writhe in agony. The abdomen should be immediately fomented with warm water, wax or oil.

9.18 Excessive Sneezing

This is occasionally the result of inflammation in the vicinity of brain. The treatment is similar to that of inflammation in general. Cooling measures should be adopted and cooling juices and oil applied to the head. Where sneezing is not due to inflammation, powdered seed of wild basil are blown into the nose.

9.19 Multiple Boils

Boils which break down into ulcers and turn black are mostly fatal. Those which are white or red are not as dangerous. This is understandable because black (gangrenous) ulcer prove fatal even when they are in the mouth (cancrum oris). Sometimes the appearance of multiple boils over the body proves beneficial. The boils should be treated by washing the body with an infusion of some mild astringent such as red roses, leave of myrtle, mastic leaves and tamarisk. Oils of these herbs can be used locally.

Simple boils should be left alone until ripe for treatment. When boils turn into ulcer, white ointment should be applied. Washing with honey water containing small quantity of nitre is also beneficial. Vesicular eruption over the body is treated by bathing with decoction made of myrtle, roses, bog-rush or young mastic leaves. In all these conditions, diet of wet nurse should be adjusted accordingly.

9.20 Umbilical Hernia

This results from excessive crying or from other cause of rupture. Ajowan ground with white of an egg is applied freely to the navel and covered with a piece of linen. Ashes of bitter lupine soaked in wine are applied in the same manner. The more potent medicines are myrrh, bark and fruit of cypress, aloe vera and acacia.

9.21 Inflammation of the Navel

This generally occurs when the cord has not been severed properly. It is treated with celtic juice and turpentine resin melted in sesame oil. A small quantity of the same is given orally as well as applied locally.

9.22 Insomnia

Sometimes the child becomes sleepless, restless and cries incessantly. In that case, sleep should be induced by applying to the head a plaster made of poppy rind or poppy seeds. Lettuce oil or poppy oil is rubbed over the head and temples. If a stronger remedy is required, a prescription made of one part each of bugle seeds, mango steeds, white poppy seeds, yellow poppy seeds, linseed, seeds of celery, purslane, plantain, lettuce, fennel, anise and cumin all braised and powdered *ispaghula*: all these are again mixed with an equal quantity of sugar and dispensed in two dram doses. However, if a more powerful remedy is desired, opium, not more than one-third part of anyone of the other ingredients or even less, is added to the prescription.

9.23 Nightmares

These are usually caused by an overloaded stomach. The decomposition of food disturbs the stomach and its products on reaching the brain excite the imaginative faculty and produces fearful dreams. In such cases, the child should not to put on bed with a full stomach and is given honey by mouth to assist digestion.

9.24 Hicoughs

This results occasionally from bad milk and is relived by giving a small quantity of coconut mixed with sugar.

9.25 Excessive Vomiting

It is caused by overfeeding with milk and is treated by four grains of cloves by mouth and applying a mild astringent plaster to the abdomen.

9.26 Weak Digestion

Sometimes the digestion becomes weak in children. This is treated by local applications of wine of lily, myrtle and rose water. A small quantity of extract of embelia and cloves with juice of quince or one carat of extract of embelia with quince wine are given by mouth.

9.27 Inflammation of Throat

This is a swelling of region between mouth and oesophagus [pharynx]. It can spread to the spine and muscles of the neck. Its best treatment is to remove constipation with a suppository placed in the rectum; the remaining treatment is carried out with syrup of mulberry or some such remedy.

9.28 Abnormal Snoring

Linseed ground with honey or ground cumin mixed honey is given as a linctus.

9.29 Prolapse Ani

The child should be treated by sitz bath in warm water in which a dram of pomegranate rind, fresh myrtle leaves, chestnuts, dried roses, burnt hart's horn, alum, goat's hooves, pomegranate blossoms or galls has been boiled. The water should be used when it is lukewarm.

9.30 Dysentery

Sometimes children develop dysentery from exposure to cold. In such cases, the following prescriptions proves useful: three drams each of the seeds of watercress and cumin are thoroughly ground together, sieved and mixed with old clarified cow's butter. A small quantity of it is given with cold water.

9.31 Intestinal Worms

Babies frequently harbour tiny worms. These are found near the anus. Round worms are not so common and tape worms are generally rare. Round worms are treated with a small quantity of absinth water mixed with milk and given according to individual tolerance. Sometimes, worm-seed, embelia, ox bite or colocynth pulp is applied to the abdomen as plasters. Thread worms are treated with a powder containing one part each of roman ginger and turmeric mixed with two parts of sugar and given with cold water.

9.32 Abrasions on Thigh

A dusting powder made of myrtle leaves, lily root and dried roses or powdered galingale or flour of lentil or barley is applied to site of irritation.

As may be observed that most of these treatments are plant based especially for children are given in Appendix.

Some common formulations of Unani medicine by Hussain (2005) one group termed prescription 1–13, giving detailed composition of each of these formulations. In addition, yet another 20 are termed formulations and their compositions too are given in detail. These are currently available in the stores selling Unani products.

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Appendix

Plant origin drugs mentioned in unani texts for childcare (*Courtesy* M.A. Siddiqui)

Unani	English	Botanical
Anisoon	Anise	*Pimpinella ani sum*
Adas	Lentil	*Lens esculenta*
Asl-us Soos	Liquorice	*Glycyrrhiza glabra*
Anzaroot	Sarcocolla	*Astragalus sarcocolla*
Afsanteen	Worm wood	*Artemisia absinthium*
Anaar	Pomegranate	*Punica granatum*
Baboona	Chamomile	*Matricaria chamomilla*
Badiyan	Fennel	*Foeniculum vulgare*
Banafsha	Sweet violet	*Viola odorata*
Baobarang	Embelia	*Embelia ribes*
Beahi	Quince fruit	*Cydonia oblonga*
Damm-ul- akhwain	Dragon's blood	*Dracaena cinnabari*
Sibr	Aloes	*Aloe barbadensis*
Hulba	Fenugreek	*Trigenella foenum*
Hina	Henna	*Lawsonia inermis*
Indrain	Colocynth	*Citrullus colocynthis*
Izkhar	Rusa grass	*Andropogon jwaraneusa*
Irsa	Iris	*Iris eusata*
Jaosheer	Galbanum	*Ferula galbaniflua*
Kateera	Gum Tragacanth	*Cochlospermum religiosum*
Karafs	Celery	*Apium graveolans*
Kahu	Lettuce	*Lactuca sativa*
Mako	Black night shade	*Solanum nigrum*
Kundur	Olibanum	*Boswellia serrata*
Khurfa	Purslane	*Portulaca oleracea*
Katan	Linseed	*Linum Usitatissimum*
Mur-makki	Myrrh	*Commiphora myrrha*
Mazu	Galls	*Quercus infectoria*
Narjeel	Coconut	*Cocos nucifera*
Nakhud	Bengal gram	*Cicer arietinum*
Saroo	Cypress	*Cypressus sempervirens*
Samagh-e- Arbi	Gum acacia	*Acacia arabica*
Roghan-e- Tarpeen	Turpentine oil	*Pinus longifolia*
Qaranfal	Clove	*Syzygium aromaticum*
Qinnab	Hemp	*Cannabis sativa*

(continued)

(continued)

Unani	English	Botanical
Toot	Mulberry	*Morus indica*
Sumaq	Sumach	*Rhus coriaria*
Shibbat	Dill	*Anethum sowa*
Ward	Rose	*Rosa damascena*
Zaafran	Saffron	*Crocus sativus*
Zard chob	Turmeric	*Curcuma longa*
Zeera safaid	Cumin	*Cuminus cyminum*

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Part III
Indigenous Systems of Medicine: Siddha Medicine

Chapter 10
Basic Principles of Siddha System

Siddha medicine is regionally confined to Tamil Nadu and some parts of adjacent Kerala. There is a proverb in Tamil that "a physician is a son of an alchemist". Mercury, sulphur and other metals and minerals have a place of pride in Siddha medicine, unlike in Ayurveda and Unani. The Siddha medicine used the concepts of humours as in the other systems. However, in addition, it was influenced by 'yoga' of Patanjali and its meditational practices. Ayurveda and Unani have no alchemical undertones while in the Siddha system its role is pivotal. Roy and Subbarayappa (1993) highlighted that in *Rasarnavakalpa* '*rasa*' refers to any potent fluid, vegetable or mineral in general and mercury in particular. *Kalpa* on the other hand brings superior transmutation of substance such as base metal to gold or the other being, acquisition of super power over human beings and attaining immortality. Thus, the *rasa*s and yogic practices are essential to achieve these goals.

The real source of inspiration in its formative stages was the Chinese Taoism, with its *Yin* (female) and *Yang* (male) principles and the association with mercury and sulphur. It has been also influenced by certain esoteric practices of Taoists who sought immortality of the body or become perfect human beings. The term Siddha means an accomplished or perfect human being. A Siddha could become immortal and possess eight Siddhis.

These Siddhis are:

Anima, becoming tiny as an atom.
Mahima, become very large.
Laghima, becoming very light—light enough to float in the air.
Garima, capable of expansion.
Prapti, power to obtain any desired object.
Prakamyam, irresistible will to perform.
Ishitvam, lording over everything.
Vashivtam, power of subduing anyone/anything.

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The Tamil tradition holds the belief that because of the above powers, the Siddhars being immortal are still alive. However, examining the core ideas of Siddha system in its use of alchemy, some of the Siddhas like Agasthyar, Nandisar, Tirumular and Bogar may have lived in Tamil Nadu around fifth century AD. Other Siddhars may have come in later periods up to fifteenth to sixteenth century. It is interesting to note that according to the Tamil Nadu tradition Bogar may have been a person of Chinese origin and was adept at alchemy.

Historians generally agree that the original home of alchemy was China. In China, cinnabar, sulphur and two sulphides of arsenic were regarded as semi-magical substances. Thus gold, mercury and sulphur were imbued with immortality. In Vedic literature, there are references to immortality which attributed gold and *soma* as the herb of immortality. But apart from this, the Vedic literature does not mention cinnabar.

It is to be noted that Tirumular in his medical text *Tirumantiram* defines medicine as that which ensures preventive against mortality. The word *sarira* or body in Ayurveda has the connotation of decay or disintegration and that *sukshmasarira,* in the absence of the five elements may pass on from one birth to the other. Unlike the Siddha notion, immortality of the body is contrary to the Indian ethos.

As the yogic practices got intertwined with *tantrik* practices, Siddha system absorbed the *tantrik* practices (Subbarayappa 2013).

The sections below have been sourced from Narayanaswami (1975) and Kandaswamy Pillai (1979). The Siddha system of medicine is essentially of Dravidian origin and its entire literature is mostly in Tamil. It is considered the older traditional ways of maintaining healthy life style. Siddha system describes the cycles of birth, death and need to maintain ones harmony which is described as Eternal Bliss (*motcham*).

The basic concepts of Siddha system are similar to Ayurveda with its roots in the ancient Dravidian culture. The Siddha system does include the five elements in its conceptual framework. While other systems accept mortality, the Siddha system aims at attaining immortality and believes that the Siddhars are still alive. Borrowing heavily from *tantrik* systems and Chinese systems, especially for obtaining alchemy, the health systems aim at achieving longevity (Subbarayappa 2013).

The mythological source is in the Shaiva tradition. According to the myth Shiva conveyed the knowledge of medicine to Parvati. She passed it on to Nandi who in turn gave it to the Siddhas. Siddha denotes that he is the one who has achieved extraordinary powers (Siddhis). This was achieved through descriptive of mind and its superiority over the body. This was achieved through yoga and medicine.

According to the tradition, there are 18 Siddhars: Nandi, Agasthyar, Thirumular, Punnakkesar, Pulasthiyar, Poonaikannar, Idaikkadhar, Pulikaisar, Karuvurar, Konjanavavar, Kalangi, Sattinathar, Azhugganni Agappai, Pubatti, Thoraiyar and Kudhambai and Dhanvanthri. The 18th name that is Dhanvanthri is a name common to Ayurveda and Siddha systems. Agasthyar is the foremost among them (Tiwari 2013). However, about 70 names of Siddhas have been noted, giving rise to the speculation that probably the above 18 may have been the physicians.

Alchemy had its origin in the Siddha system. However, it is speculated that parallel existence of preoccupation with longevity and alchemy in China around the tenth century and the possibility of travelling scholars from China to India or India to China could not be ruled out. There is even an allusion to a Siddha being Chinese! While Siddha medicine borrowed constructs from Ayurveda, in the sixth century AD, Vagbhata's work indicates the use of metals derived from Siddha and *tantrik* practices leading to the emergence of *Rasashastra* in Ayurveda. One of the Siddhars was believed to gone to Mecca and taught alchemy that came to be the Islamic heritage of alchemy.

10.1 Basic Principles of Siddha Medicine

Ayurvedic texts are clearly divided into the eight branches. *Charaka Samhita* (C.S.) and *Sushruta Samhita* (S.S.) are being the foundation texts. In the Siddha system, there are no such clear descriptions of the branches.

The Siddha concept of human body is predominantly influenced by *tantrik* principles drawn mainly from *tantrik* texts in Sanskrit with some variations. The *chakra*s are psychophysical nerve centres.

These are:

Muladharam located at the base of the spine.
Svadhisthanam located at the centre between the genital and navel.
Manipurugan located further above in the navel lumbar region.
Ananahatam located in the region of the heart.
Visuddhi is located at the junction of the spinal column and medulla oblongata.
Ajna is located between the eyebrows. It represents will power or wisdom.

Each of these *Chakras* is represented with different number of lotus petals. The ultimate goal is to achieve *Kundalini*, blissful state of thousand-petalled lotus and consequently immortality.

The Siddha system does not postulate anatomy based on observation. It postulates a *Tantrik* body with physical and subtle states. The five elements are related to the six *Chakras* and are in variance with Ayurvedic concepts.

10.1.1 Systems of Examination

a. Examination of Pulse
   Unlike Ayurveda, the examination of the pulse (*nadi*) is an important method of examination. The examination is very detailed and uses the *tridosha* concepts. In the Siddha system, the practitioner's spirituality enables him to read the pulse accurately.

b. Examination of Urine
   Intensity of disease is determined by the colour of urine. Very elaborate methods are used for urine examination.
c. General Examination
   It consists of methodical questioning about the history, examination of the eye, faecal, matter, colour and nature of skin and tongue.
d. Astrological calculations of the patient's time of arrival at the physician's door and planetary constellation at that time receives some consideration (Subbarayappa 2001).

The *Tridosha*s are common between Ayurveda and Siddha systems but Siddha system, unlike Ayurveda, recognizes *vatam* as predominant in childhood, *pitham* in adulthood and *kapham* in old age. Ayurveda reverses this order.

The various psychological and physiological functions of the body are contributed to seven *Dhathu* equivalents. These are:

i. *Saram* (plasma) responsible for growth, development and nourishment.
ii. *Chenee* (blood) responsible for nourishing muscles, imparting colour and improving intellect.
iii. *Ooun* (muscle) responsible for shape of the body.
iv. *Kolluzppu* (fatty tissue) responsible for oil balance and lubricating joints.
v. *Enbu* (bone) responsible for body structure, posture and movement.
vi. *Moolair* (nerve) responsible for strength
vii. *Sukila* (semen) responsible for reproduction.

Like in Ayurveda, human beings are classified according to *vatha* (air/sky), *pitha* (fire) and *kapha* (earth/water). The five elements are also sky, air, earth, fire and water. Though the terms are common, Siddha system differs in its interpretation.

10.1.2 Concept of Disease and Cure

Disease is caused when normal equilibrium of the three humours is disturbed. The factors which affect the humours are environment, climatic condition, diet, physical activities and stress. According to Siddha medicine, diet and lifestyle play a major role in maintaining health and curing disease.

Diagnosis: There are eight types of examinations which affect the humours differently.

1. *Na* (Tongue)
2. *Varna* (Colour)
3. *Svara* (Voice)
4. *Kan* (Eyes)
5. *Sparism* (Touch)
6. *Mala* (Stool)
7. *Neer* (Urine)
8. *Nadi* (Pulse)

10.1.3 Treatments

In Siddha medicine, the use of metals and minerals are predominant. The drugs may be divided into three groups.

Thavaram (Herbal products). There are over 100 plant preparations.
Thathu (Inorganic substances). There are over 40 metals, minerals, 9 gems and salts.
Jangamam (Animal products). There are 20 animal products.

Apart from borrowing many of the Ayurvedic treatments, the Siddha system is unique in the use of *muppu* (union of three salts) with extraordinary properties such as alchemy, rejuvenation, enhance mental and physical powers. The three salts are *puniru*, *kalluppu* and *vedioyuppu* (Subbarayappa 2013).

The drugs used were classified on the basis of *suvai* (taste), *guna* (character), *veerya* (potency), *pirivu* (class) and *mahimai* (action).

According to the Siddha system, the mode of use could be internal or external. The internal medicines are administered through the oral route and are classified into 32 categories.

External medicines are for external application and used for application to eye, ears and nose etc. Leech application was also practised.

In addition to drugs, *pranayama* (deep breathing) and other yogic practices were recommended for good health and longevity.

Treatments are divided into divine, rational and surgical methods. These are further elaborated consisting of purgative, emesis, fasting, steam, oleation, physical, solar (exposure to sun light), bloodletting, yoga and so on.

The Siddha medicine practised in Tamil Nadu and Kerala is called *varma.* This postulates a 100 vital points which are either junctions of bones, tendons or ligaments or blood vessels and are called *varma* points. This bears some resemblance to the *chakra* system of Buddhist/Chinese origin, described earlier.

It is curious that with the exception with *Balavagadam* (paediatrics) and alchemy and elixirs for longevity, no specific branches are mentioned in the Siddha texts. However, it encompasses alchemy, philosophy, yoga, tantra, astrology and medicine. The approach is holistic than divisive.

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Chapter 11
Developmental Approaches to Childcare (*Balavagadam*)

Balavagadam is the branch of Siddha medicine that deals with diseases of children, their essential nature, functional changes with planetary influences on diseases and their treatment.

11.1 Qualities of a Physician

Apart from the nature of the patient and the treatment, the qualities of the physician are considered to be of utmost importance. Agasthyar, the foremost of the Siddhars, says that the physician is responsible for the life and health of the body of the patient. The illness is attributed to the patient's previous *karma*. If the physician treats the patient and takes something in return, he will also share the burden of the patient's *karma*. However, the patient is advised that the patient should pay for the treatment. This poses an interesting dilemma to the physician. Physician should be moral and disciplined and have faith in gods. He should not be proud and assume that only he could cure all diseases. He should be patient and understand the cause of the disease. He should be knowledgeable about the treatments. He should speak in a well modulated and pleasant manner. He should be able to explain to the patient about the treatment. He should pray that the patient should heal, despite his defects.

An interesting metaphor describes a good physician: as having three eyes to differentiate good and bad medicine and to distill good medicine, four heads to understand *vata*, *pitta*, *kapha* and their combinations causing illnesses, five faces to understand five *pindas*, the six hands to analyse six tastes, eight bodies to examine the eight aspects of stools, urine, sperm, eyes, ears, nose, tongue and body and ten legs to feel 10 kinds of *naadis* (pulse) (Venmathian 1993).

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11.2 Embryology

The following descriptions can be found in the *Siddhavaidya* by Venmathian (1993; Pillai 1931; Balavagadam 1973; Ayodhidaran 1967; Siddha medicine wikepedia).

The seven elements emerge out of the human organism one after another on each day. The first day it is the *rasa*, second day the blood, third day the flesh, fourth day the fat, fifth day the bone, sixth day the brain and the seventh day as semen.

When the semen of the man and the ovum of the woman mix during the sexual union, the embryo is produced. On the first day it has the size of mustard seed, on the second day of coriander seed, on the third day of chilli (pepper) seed, on the fourth day a small *avare* seed, on the fifth day a water bubble, on the sixth day gooseberry, on the seventh day a *honne* seed. To describe in brief:

Ninth day—crow's egg
Tenth to fifteenth day—hen's egg
One month—banana
Second month—formation of head, back and neck
Third month—formation of waist, legs, arms and fingers
Fourth month—head with mouth, tongue and nose
Fifth month—ears
Sixth month—anus, nails and nerves
Seventh month—nerves develop fully, the foetus breathes and intestines are functional
Eighth month—growth of hair and the mother's nutrition reaches the foetus
Ninth month—awareness emerges

However, the foetus is alive before but is in a sleep/meditative posture. Now the foetus is structurally complete and fully developed.

In the section on embryology, good deal of description is that of the qualities of semen. Siddha tradition has numerous *tantrik* practices as well as rich poetry regarding it.

Healthy seeds yield healthy generation is the focus of Siddhars. They saw the child as a healthy seed for entire life. They brought this out clearly in the case of the child, including that of the foetus and the expectant mother.

Childcare actually starts much before the infant is born (Thottam 1983; Krishnamurthy 1983). It starts when it is formed in the mother's womb. The food the mother consumes, the work she does and the hygiene she maintains contribute to the wellbeing of the foetus. Agasthyar in *Pindaurupathi* gives a detailed description of illnesses a woman will encounter with regard to pregnancy and treatments for it in the 2nd and 6th month—urinary problems of decreased output—to be treated with centre of lotus flower ground in milk. A paste of white water lily, *thipili* and grapes may be smeared on the abdomen. In the other month, stomach pain may be experienced, sandalwood paste may be smeared and white water lily, heart of lotus flower ground in milk may be taken. All the above have cooling effect and diuretic properties.

According to *Pararajasekaram*, a month by month treatment is to be given for 3 days each month will promote health of the mother and the foetus and prevent miscarriage and abortions.

Diet: The recommended diet and favoured foods are given to the pregnant woman in all the strata of the society. The food consists of milk, green vegetables, fruits, pulses, etc., and non-vegetarian food.
Exercise: Normal household chores are recommended.
Hygiene: Abstinence from intimate relations with the husband is recommended.
Postnatal care deals with effective removal of placenta after the birth of infant. There are prescriptions to bring the uterus to its normal shape and size, toning physiological functions and enhancing breast milk secretion. Diet and health enhancing drugs are prescribed.
Breastfeeding is highlighted as important in the Siddha texts listing out numerous galactogogues which enhance milk secretion. Donkey's milk is recommended on the first few days—which is ritually followed in Tamil homes even now.
Weaning is recommended from the 4th month and in the *Balavagadam* several prescriptions are recommended. Most medicines prescribed to the infants on breastfeeding are given to the mother.

Following the birth there are ceremonies to promote healthy development. These are like *samskaras* or rites of passage.

1. Information about the birth to the community.
2. Introduction of *senai/urai marunthu* by the maternal uncle to develop immunity—to be given in drops right after birth.
3. Naming ceremony.
4. Piercing of ears.
5. First solid feeding—introducing rice
6. Induction of knowledge

The normal developmental stages are termed *paruvams*. This is a Siddha concept that describes motor and cognitive maturity of the child according to the chronological age. *Pillaitamil*, the devout poet par excellence of Tamil literature, describes growth and development of children from a social perspective. It extends up to the fifth decade of life. It is also differentiated by the gender, culture and social setting.

11.3 Description of the *Paruvams* for Male and Female Children

Pillaitamil has described the development of the child into 17 stages of divinity. But these *paruvams* also refer to Krishna, the divine child.

The *paruvams* as described by Pillaitamil between the ninth and twelvth century constitute the infant's level of development, the rites or ceremonies attached to that level, the play activities and the interaction with parents at that age. The labels given to each stage reflect people's close observation of infancy and the incorporation of the stages being structured into poetic style is evidence for the wide understanding of infant development. These refer only to the first seven stages of the 17 stages.

Table 11.1 *Paruvam* stages of development

Kappu	Protection	1st Month
Sengirai	Crawling	5th Month
Tal	Babbling	7th Month
Chappani	Clapping	9th Month
Mutham	Kissing	11th Month
Varugai	Walking	12th Month
Ambuli	Playing with the moon	18th Month

The seven stages are (Table 11.1).

In the *Kappu Paruvam*—the protection of the Gods is invoked for the infant. Some families put on the child's wrist, a *kappu* (bangle) made of neem leaf. Others use gold or silver. The term *kappu* refers in common usage today to the little bangle that the infant wears as a symbol of protection.

In the *Senkirai Paruvam* (5th month), the child is described as moving like a creeper. His crawling and swaying bring delight. In the 7th month, the *Talaparuvam*, the baby is encouraged to prattle. *Tal* means tongue and the movement of the tongue in the beginnings of language is the main development of this stage. The word *Talattu* means lullaby in Tamil—because it is often accompanied by the swinging of the cradle or hammock. It is also a period when the baby is responsive to the singing of lullabies. The 9th month sees the child bringing both hands together to make clapping sounds. This is the stage when adults ask the baby to clap and help along gently for the baby to bring the hands together in a clap. A variety of clapping games are introduced by the mother and others.

Mutha Paruvam is the 11th month, when the child can purse its lips. The parents ask the child for a kiss.

The next stage, in the 12th or 13th month, is *Varugai* or *Varanai*—the child's first steps in walking with outstretched arms. The parents invite the child to come walking towards them. These are also described by Rajeswaran et al. (2011).

The seventh stage is placed in the 18th month and is called *Ambuli* or moon stage. It involves the mother's asking the moon to come and be a playmate to the child. For persuading the moon, the mother uses the four traditional socialization techniques: *sama*, *dana*, *bheda*, *dandam*. In the poetic tradition of Pillaitamil, this stage is considered the most challenging. According to Anandalakshmy (1997), it is also the most interesting. The child is compared to the moon as bright and beautiful. So the moon, being similar is called down to be a good playmate. Or the moon is chided for not coming down, and told petulantly: "So we will churn the ocean again and get another moon which will play with us". In Pillaitamil, the focus is on domestic and close relationships, rather than only on individual development. It has tenderness and playfulness built into it. It seems to touch the moon side of our nature—depicting fantasy.

The above excellent descriptions of the *paruvams* are provided by Anandalakshmy (1997, 2013). Elaborating the *paruvams* further, the following developmental stages may be described (see Table 11.2).

Table 11.2 1st to 3rd year activities

For boys	
Chitril	Making sand house
Sirupari	Playing with small drums
Siruthair	Pulling small ear
For girls	
Ammanai	A game with five *cowrie* shells/pebbles/seeds/small round objects, tossing them above and catching them on the back of one's right hand without dropping any to the ground. As the game proceeds, it becomes more complex. The one who reaches the most difficult level is the winner. Girls take turns as they lose each step.
Neeradal	Probably refers to a game making soap bubbles and blowing them.
Oosal	Playing on the swing.

There is obvious gender discrimination in the choice of these games. Or the skills may develop at different rates amongst boys and girls at these stages of development. These developmental stages provide a fine grained analysis of child development in the ancient times.

Thus in the Siddha system, conception, development of the foetus, care of the pregnant and nursing mother are inextricably woven together with rituals, appropriate diets and the holistic care of the infant and the mother. Importance of different kinds of play by infant/child and those around in the various '*paruvams*' is an important component of child development in the Siddha system.

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Chapter 12
Disorders of Childhood and Treatments

Siddha medicine comprises alchemy, philosophy, yoga, *tantra* (magic) and astrology along with medicine. *Balavagadam* is the branch that deals with disease of children, their essential nature, functional changes with planetary influence, morbid diathesis and the treatment (Pillai 1931, p. 3301).

Disorders according to Siddha medicine are either inherited or acquired. These are described by Krishnamurthy (1983), Thottam (1983) as follows.

1. *Agakaarana noigal*—inherited from parents
2. *Purakaarna noigal*—due to external influence after the birth

Child care after the birth is very crucial. The physician needs exceptional skills as the child cannot yet speak.

1. Pulse examination. These are of five kinds.

   (i) Pulse indicating wind humour
   (ii) Pulse indicating bilious humour
   (iii) Pulse indicating phlegmatic humour
   (iv) Pulse between the thumb and fore finger
   (v) Pulse between other four fingers

   The above methods are especially useful for children.
2. The nature of crying too indicates whether the infant is hungry as indicated by continuous crying solved by feeding, spasmodic crying due to pain or irritable crying.
3. Other symptoms

   Hiccoughs, rumbling of gas in the stomach, abdominal distension, vomiting, yawning, refusal of feeds, abdominal colic, constipation and retention of urine.

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12.1 Causes of Diseases of Origin (In Utero)

12.1.1 Intrinsic Factors

Inherited or transmitted from the parents. These have specific terms in Tamil: *grandhi*, *thodam*, *mandham, ganam, karappam and akkaram*. The two types of *grandhi* are *sengirandhi* (red) and *karungirandhi* (black), also known as *sevappu* and *karuppu.*

12.1.2 Extrinsic Factors

Factors that influence the child after birth: Irritable crying, hiccough, wind rumble in the stomach, abdominal distension, vomiting, yawning, refusal of feed, abdominal colic, constipation and retention of urine.

Development of diseases according to age:

(i) *Kappu paruvam:* Birth to three months affected by *grandhi*
(ii) *Mutha paruvam:* Third month to first year affected by *thodam*
(iii) *Thala paruvam*, *Sappani paruvam*, *Varugai paruvam* } Affected by *mandham* and *karappam*
(iv) Third to seventh year—affected by *ganam* and *akkaram*
(v) *Suram, sanni, kazhical* and *valippu* develop either by themselves or with other diseases from early infancy to late childhood.

12.2 Clinical Manifestation

This inherited condition causes blistering all over the body. This is a lifelong condition. Other symptoms are non-specific, like reddening of skin all over the body with blister occurring immediately after birth continuing till 3 months. In the black type of *grandhi*, the skin develops black discolouration immediately after the birth. The infant's voice will be hoarse. The infant cries incessantly, with shallow cat-like voice, abdominal distension with constipation and retention of urine, restlessness and extensive erythema—causing complete prostration.

In the incurable stage, the infant refuses feed, has feeble cry, laboured breathing, dry tongue, still pupils, drawn face and severe infection in the stomach (*kukkip puzhu vilayam*).

12.2.1 Treatment (Internal)

Fresh leafy juice in small quantity twice a day (10 ml)

Bathing in infusion of herbal leaves for three days:

(i) Ghee, castor oil and gingely oil (*mukuttu nei*)[1] mixed into *sangam* leaf and added ground paste of *chuku* and *thippali,* kept to evaporate in the sun. This residual ghee is given to the infant in the morning for 3 days. Bath: The above ghee is applied to the body and the latter is bathed in warm water infused with *semmulli* and *grandhi nayagam.*
(ii) *Gorochanai* with juice of *karpuravalli, ulli* and *kumari* leaves with breast milk for *sengirandhi.*
(iii) '*Oman's*' blood with donkey's milk in penny weight is an effective remedy for *karungirandhi.*

12.2.2 Thodam (Dhosham)

Thodam is defined as touching as it may be caused by touching hand, casting of 'evil eye' and by bodily contact of infected persons even by looking at close quarters may cause it. (Viral/bacterial infections in modern day language.) Domestic or wild birds too can cast their shadows and cause *thodam* in early mornings or evenings. It occurs from the third month to the first year.

Classification of Causes

1. *Patch* (big bird)
2. *Paravai* (medium-sized birds)
3. *Pul* (small birds)
4. *Etchi* (evil spirits: five female and six male) eight separate 'etchies' (evil spirits) *Pachi thodam* are caused by male, female, sterile and eunuch birds.

12.3 Common Features and Treatment

Some common features are abdominal distension, gastroenteritis leading to dehydration, sometimes followed by watery motions and vomiting. These result in sunken eyes and anterior fontanel, conjunctivitis, shrunken face, thinning of neck, inability to lift the head, refusal of feed or water and prolonged fever—ultimately leading to delirium.

Tantrik rituals, specific to the kind of *Thodam* affecting the child, is carried out and an example of which is given below

[1]Several of the plants do not have common English names. Attempt has been made to provide some botanical names in the appendix.

Detailed procedure of obtaining a specific root moving in the northerly direction.

(i) Root cutting into five pieces, five coloured threads and specific mantras—*kulisam* tied to the wrist or ankle.
(ii) Thin copper plate of 2.5 square mm with a specific mantra engraved, rolled in five coloured threads is offered to gods with *naivedyam* of *pongal* after *puja* and sanctification, the *kulisam* is tied at hip or throat with yellow thread.

12.3.1 Parvai Thodam

Features
Movements of baby indicating pain all over the body, vomiting, indigestion, dyspnoea, convulsions in sleep, sudden shrieking, fearfulness with the progress of the disease, excess thirst, dry tongue—leading to moribund state.

Treatment

1. Medical: Decoction made of *suragan,* onion and *vatpoola* root 10 ml—twice a day
2. *Tantrik: Kulisam* of adventitious roots of banyan tree or roots of white *kunri.*

12.3.2 Pul Thodam

These are caused by 10 kinds of birds: swollen, sleep, lamplight eyed, white eyed, red eyed, kite eyed, devil eyed and dry eyed along with evening and water birds.

Clinical Features
Sunken anterior fontanel, vomiting, green diarrhoea, weak and irritable cry like a bird, wasting away, extensive thirst and grabbing water container—leading to complete prostration.

Treatment
Medical: Decoction of *Orilai thamarai leaves* with *vidahari, vardhyam* and *milagu*. Dose 10 ml—twice a day for 3 days.

12.3.3 Etchi Thodam *(Demoness)*

Emaciation of body with offensive odour, refusing mother's milk, loose motions, distressing cry like pouncing tiger, wincing when with other children, rolling on the ground and dirtying the body, dry conjunctivitis and rubbing of eyes—later on discolouration and wasting of body.

Treatment

1. Medical: Both *Nilavila* or *Vila* leaves bath.
2. *Tantrik*: Cocoons on acacia tree bound with yellow thread and turmeric paste—after offers cocoons are separated dipped in water from three sources and sprinkled on the child; *kulisam* of *amekkan* or banyan roots.

Evil eye cast by an *etchi thodam* person or fouled by faeces, insects etc. are the causes. Child refuses breast feed, is drowsy, unable to lift head, there is change of complexion and has an irritable cry and conjunctivitis with sticky eye lids. Rolls on the ground and dirtying one's body. Treatment is as described earlier.

Female *thodam* is of six kinds according to their causes

(i) Woman who has not had bath after intercourse
(ii) Menstruating woman
(iii) Has worn an anklet desiring (for promoting) gestation
(iv) Woman after bath during menstruating
(v) Woman with a baby
(vi) Woman after abortion

Clinical Features
Dryness of throat, shrinking of eyes, laboured breathing, listlessness, refusal to breast feed, sleepless with distressing cry, perspiration and dull skin—finally becoming unconscious.

Medical: *Kanjongorai* decoction 10 ml twice a day for 5 days. Fresh juice of *kella nelli, anman pacharisi, sirupullacle vasumbe* and *ulli*—twice a day.

Same juice is applied over the body.

Bath: Paste of *Tazhuthalai*

Kutti Vila, vembu leaves with powdered *sombu, manjal, vasambu* and *chukka*—applied to anterior fontanel and bathed in water infused with *vagai* leaves, *tantrik kulisam* from cotton plant root.

12.3.4 Male Thodam

Causes by male just returning after intercourse.

Clinical Features
Sunken anterior fontanel, deep sunken leaves, green diarrhoea, shrinking in distress—then developing their neck.

Tantrik: Kulisam out of tongue of *udumbu* (monitor lizard)
Theral Thodam: Caused by airy touch of moving toad.

Clinical Features
Dryness, marasmus, narrowing of eyes, limbs folding on the trunk, distension of abdomen, dry faeces, dry mouth, dry throat, change in voice and eversion of the umbilicus. Later on dyspnoea, refusal of feeds, loss of hearing, drawn face, dry limbs, has shrieking voice and emaciation despite feeding.

Treatment

Medicinal ghee

There are other diseases like *achanam* affecting the tongue, fever, diarrhoea, convulsions, seizures, anaemia, dropsy, jaundice, whooping cough, diseases of ear, nose and throat, eyes, dental disease and helminthiasis—too are described with their treatment (see Table 12.1 detailing home remedies for diseases). Treatments are given in Balavagadam (1973); Rajeshwaran et al. (2001), Siddha Medicine Wikipedia; Venmathiyan (1993).

To conclude, child care in Siddha medicine gives a fine-grained description of early child development. In addition, the various disorders are linked to these developmental phases and the *Paruvams.* The acquired disorders are attributed to contagious sources, especially birds, contaminated humans and evil spirits. Treatments accordingly are herbal and *tantrik*. The social customs and rituals appear to blend seamlessly in child care (Figs. 12.1, 12.2 and 12.3).

Table 12.1 Home remedies for Children's Diseases

Children's diseases	Some home remedies
Fever	Tippils, pepper and dry ginger with honey
Fever with fits	Cold sponge, fried egg oil
Stomach upset—21 kinds	Fried garlic with *omam*
Constipation	Dry plum extract, tender neem leaves with jaggery
Cholera	*Mara mayal* or berberis
Jaundice	*Khizhe nelli, karaselan karne*, diet control is important, bland diet with no fats
Typhoid	Fruit of *Cassia fistula*, diet is important
Worms	Juice of bitter gourd, green papaya
Primary complex (*Kanai*)	Neem oil (tuberculosis of 3 types: fever, irritability, loss of appetite and poor growth)
Asthma	Tylophora indica (*noncharuppan*)
Malaria	Cinchona bark
Polio	Buried in moist sand in river bed up to the hip—gradually increasing the duration
Balavantham cripples the child	massage should be given
Rickets	Indian gooseberry, greens and milk
Boils/carbuncles	*Karappam* oil, rice, charcoal, salt paste, neem and turmeric paste, fomentation, especially in hot water
Poxes	Cooling foods—curds and coconut water; abstinence from spicy and oily food. Neem leaves on the bed and in bath. Juice of *nanthiya vallaier* flowers into the eyes
Dental diseases	Neem sticks for brushing
Eye diseases	Water with *muthuparam* juice of *thubai* leaves
Conjunctivitis	Banana peel
Ear diseases	*Chathura varte* heated and dropped in the ears
Bleeding gum	*Nannari* leaves, neem

Note Further details may be obtained from Pillai (1931)

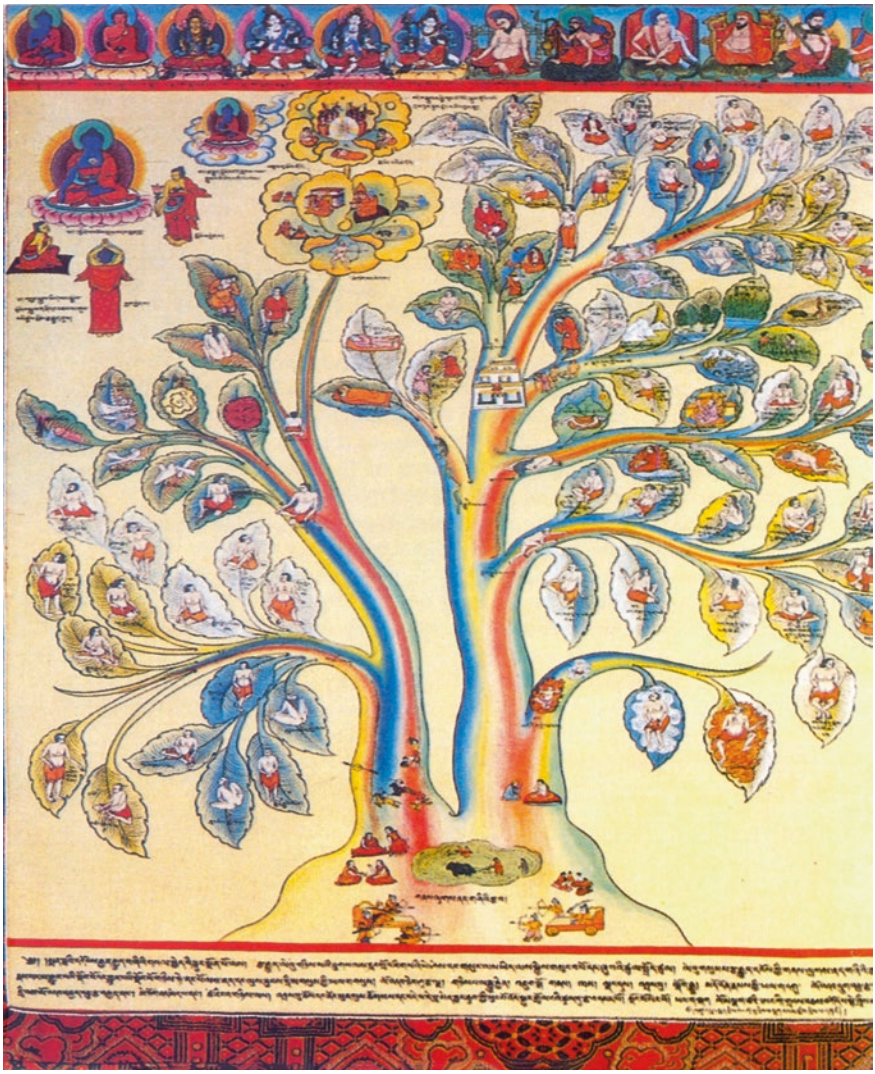

Fig. 12.1 Allegorical tree depicting the two trunks of health and disease. *Source* Fundamentals of Tibetan Medicine, Men Tsee-Khang, Dharamsala, 2009

Fig. 12.2 Allegorical tree depicting the three trunks of visual, sphygmology and interrogation. *Source*: Fundamentals of Tibetan Medicine, Men Tsee-Khang, Dharamsala, 2009

Fig. 12.3 Allegorical tree depicting the four trunks of diet, behaviour medicines and accessory therapeutic techniques. *Source* Fundamentals of Tibetan Medicine, Men Tsee-Khang, Dharamsala, 2009

Appendix: Plants and Other Materials Used in Siddha Medicine (from Subbarayappa 2001)

Plants used in siddha medicine

Name of the plant	Botanical name
Akasagarudan	*Corallocarpus epigaeus* Benth.
Aal	*Ficus bengalensis* Linn.
Ali	*Linum usitatissimum* Linn.
Ammanpacharisi	*Euphorbia hirta* Linn.
Amukkara	*Withania somnifera* Dunal
Avarai	*Cassia auriculata* Linn.
Avuri	*Indigofera tinctoria* Linn.
Alingi	*Alangium salvifolium* Linn.
Sembaruthi	*Gossypium arboreum* Linn.
Sevalli	*Rubia cordifolia* Linn.
Citramula	*Plumbago indica* Linn.
Devadaru	*Plumbago zeylanica* Linn. or *Cedrus deodara* Roxb.
Lavangapattai	*Cinnamomum zeylanicum* Blume.
Yetti	*Strychnos nux-vomica* Linn.
Impural	*Oldenlandia umbellata* Linn.
Satikai	*Myristica fragrans* Houtt.
Satipattiri	*Myristica fragrans*
Kadugu	*Brassica nigra* Linn Koch.
Kammaruvetrilai	*Piper betle* Linn.
Gantubharangi	*Pymacopremma herbacea* Moldenke
Karandai	*Sphaeranthus indicus* Linn.
Karisalai	*Eclipta prostrata* Roxb.
Karkatakasringi	*Rhus succedanea* Linn.
Karbogarisi	*Psoralea Corylifolia* Linn.
Karunjirakam	*Nigella sativa* or *Carum copticum* Linn.
Karungali	*Acacia catechu* Willd.
Kasakasa	*Papaver somniferum* Linn.
Kattatti	*Woodfordia fruticosa* Kurz.
Kattumilagu	*Piper attenuatum* Buch.-Ham.
Kalarchi	*Caesalpinia crista* Linn.
Karambu	*Syzygium aromaticum* Merr.
Koraikilangu	*Cyperus rotundus* Linn.
Gorocanal	*Holarrhena antidysenterica* Wall.
Kudasapalai	*Crocus sativus* Linn.
Kumkum pu	*Abrus precatorius* Linn.
Kunri	*Coleus vettiveroides* K.C. Jacob.

(continued)

Name of the plant	Botanical name
Kuruver	*Mimusops elengi* Linn.
Magilampu	*Gisekia pharnaceoides* Linn.
Manalikirai	*Curcuma Longa*Linn.
Manjal	*Rubia tinctorum* Linn.
Manjatti	*Berberis aristata* DC.
Maramanjal	*Coscinium fenestratum* Gert.
Marukarai	*Randia dumetorum* Lam.
Marudam	*Terminalia arjuna* W. & A.
Marudonri	*Lawsonia inermis* Linn.
Milagaranai	*Toddelia asia* Lam.
Musambaram	*Aloe barbadensis* Mill.
Nannari	*Hemidesmus indicus* R. Br.
Niradimuttu	*hydnocarpus kurzii* King Warp.
Nirmulli	*Asteracantha longifolia* Nees.
Nelpori	*Oryza sativa* Linn.
Nilakumil	*Gmelina asiatica* Linn.
Nilavagai	*Cassia angustifolia* VahL
Nilavembu	*Andrographis paniculata* Nees.
Nilavila	*Feronia limonia* Linn. Swingle
Odiyam	*Lannea grandis Tennst.* Engl.
Palasu	*Butea monosperma Lam* O.Ktz.
Panivellam	*Borassus flabelliformis* Linn.
Parpatakam	*Mollugo cerviana* Ser.
Peikumatti	*Citrullus colocynthis* Schrad.
Peipirku	*Luffa acutangula* Linn Roxb.
Peipudal	*Trichosanthes cucumerina* Linn.
Peramutti	*Pavonia odorata* Willd.
Perungayam	*Ferula foetida* Boiss
Piramival ukkai	*Bacopa monnieri* Linn Pennell
Ponnangani	*Alternanthera sessilis* Linn.
Punaikali	*Mucuna pruiiens* Hook.
Potralaikaiyan	*Wedelia calendulacea* Less.
Pulinaralai	*Cissus setosa* Roxb.
Puliyarai	*Oxalis cormiculata* Linn.
Sankan	*Azima tetracantha* Lam.
Sarakonrai	*Cassia fistula* Lam.
Sarakonrai	*Glinus lotoides* Linn.
Siruseruppadai	*Gymnema sylyestres* R. Br.
Sirukurinjan	*Mesua ferrea* Linn.
Sirunagapu	*Dillenia pentagyna* Roxb.

(continued)

Name of the plant	Botanical name
Sirunerunjil	*Tribulus terrestris* Linn.
Sirutekku	*Clerodendrum serratum* Linn.
Sivanarvernbu	*Indigofera aspalathoides* Vahl. ex. DC.
Talisapattri	*Taxus baccata* Linn.
Tetrankottai	*Strychnos potatorum* Linn.
Tuduvalai	*Solanum trilobatum* Linn.
Uddamani	*Porgularia excelsa* N.E. Br.
Umattarn	*Datura metel* Linn.
Vayuvilangam	*Embelia ribes* Burm.f
Vailarai	*Centella asiatica* Urban
Vembu	*Acorus calamus* Linn.
Vellilodirarn	*Symplocos spicata* Roxb.
Vembu	*Azadirachta indica* A. Juss.
Venkadugu	*Brassica alba* Boiss.
Vetrilai	*Piper betle* Linn.
Vetpalarisi	*Wrightia tinctoria* R. Br.
Vettiver	*Vetiveria zizanioides* Linn Nash.
Vilangai	*Feronia limonia* Linn Swingle
Vilvam	*Aegle marmelos* Correa
Viludi	*Cadaba ferino* Forsk
Elarisi	*Elettaria cardamomum* Maton.
Yanaitippili	*Piper retrofractum* Vahl.
Yellu	*Sesamum indicum* Linn.
Yerukku	*Calotropis gigantea* R. Br.

Metals, minerals, salts and animal products used in siddha medicine

Ulogam (metals)	
Ayam	Iron
Karu Vangam	Lead
Kantham	Lodestone (magnetic oxide of iron)
Chembu	Copper
Nagam	Zinc
Tangam	Gold
Mandiiram	Dross iron
Velvangan	Tin
Velli	Silver
Panca Sootam (*mercury and its compounds)*	
Erasam	Mercury
Erasa Cenduram	Red oxide of mercury
Elingam	Cinnabar (red sulphide of mercury)
Puram	Calomel (mercurous chloride)
Viram	Corrosive sublimate of mercury or mercuric chloride

(continued)

Patanangal (sulphides)	
Anianakkal	Stibnite (antimony sulphide)
Gandakam	Sulphur
Goauri	Arsenic pentasulphide
Talakarn	Yellow orpiment (arsenic trisulphide)
Manosilai	Red orpiment (arsenic disulphide)
Mirudara singi	Litharge or massicot (lead monoxide)
Vellaippachanam	White arsenic (Arsenic trioxide)
Karasaram	–
Induppu	Rock salt
Yevatcaram	Potassium carbonate (crude)
Kadal nurai	–
Kalluppu	Common salt
Kariyuppu	–
Satthyccararn	–
Padikaram	Alum
Cudan	Camphor
Navacaram	Sal ammoniac or ammonium chloride
Pachai Karpurarn	Borneo camphor
Bidalavanarri/Kampu	Salt/black salt
Piiniru	Dhobi's earth similar to Fuller's Earth
Ambar	Amber gragea
Valayaluppu	–
Venkaram	Borax or sodium biborate
Vediyuppu	Saltpetre or potassium nitrate
Attuppu	–
Navamani	nine gems
Gomedhakam	*Zircon*
Nelamani	*Saphite*
Pavalham	*Coral*
Pushparagam	*Topaz*
Markatam	Emerald
Mannikkam	Ruby
Muttu	Pearl
Vaiduriyam	Lapis lazuli
Vairam	Diamond
Uparasam	
Appirakam or Vellai	Muscovite (white mica)
Karuppu	Biotite (black mica)
Annabhedi	Green vitriol or ferrous sulphate
Karupura Silasattu	Bitumen
Kalmar nattu	Asbestos
Kalcunnam	Limestone or calcium carbonate or oxide

(continued)

Kadikkaram	Silver nitrate
Kavikkal	Red ochre; also silicate of alumina
Komotira Silasattu	Bituminous
Cenkal	Brick(s)
Turusumayil thutham	Blue Vitriol or copper sulphate
Yandukkal	A kind of fossil
Nimilai	Copper pyrites
Palthutham	Calamine or zinc sulphate
Animal products	–
Aamai	Tortoise
Mayiliragu	Peacock feathers
Mandaiodu	Skull
Kasturi	Musk
Kilinghil	Shell (fresh water)
Kombarakku	Lac
Mankombu	Antlers of deer
Gorocanam	Gorojanam
Kozhi	Domestic hen
Sankh	Conch shell
Sanarn	Dung
Gomutram	Cow's urine
Taen	Honey
Natthai	Fresh water snail; apple snail
Palakarai	Cowrie shells
Panri	Pig
Pambu	Cobra
Pal	Milk and milk products
Picchi	Gall bladder
Punugu	Civet
Punagam	Earth worm
Mayil	Peacock, pea-hen or pea-fowl
Mutthucchippi	Pearl oyster shell
Thaen mezhugu	Bees wax
Udumbu	Monitor Lizard
Yaanai	Elephant

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Part IV
Indigenous Systems of Medicine: Tibetan Medicine

Chapter 13
Basic Principles of Tibetan Medicine

13.1 Origins of Tibetan Medicine

In Tibet, the Bon religion and culture flourished in the Shang Shung region before the advent of Buddhism and the introduction of the present Tibetan script. The Bon master was the source of Bon medical tradition in about 300 BC. The founder master was Tonpa Shenrab Miwoche. He was born around the time of the Buddha. His eldest son Chebhu Trishey trained under his father and known as the first Tibetan physician. The four *tantra*s, or *Gyud Chi*, are the main texts of Tibetan medicine. In 254–374 AD Indian physicians Vijay Gaje and Bela Gaje visited the court of the 28th king. Vijay married the king's daughter and their son trained at a very young age under his father and became a court physician. This tradition was to continue till the 31st king. In 617–698 AD, indigenous Tibetan medical knowledge was written down at the time of the 33rd king. In 641 AD, a Chinese princess brought the Chinese medical texts to Tibet when she came there as a bride. Vagbhata's *Astangahridaya* was the most influential Indian medical text in the Tibetan medical system. Thus, as aptly described by Tsemnan (1995), Tibetan medicine is like a confluence of three rivers: Bon medicine, Ayurveda and Chinese medicine.

Texts such as *Menched Chenmo* were translated by Hanshang Maha Deva and Dharma Kokha Bharadwaja of India, Hanwan Hang of China and Galen (a practitioner of Greek medicine) who were invited to Tibet during the period of the 33rd king (617–678 AD). Together they wrote a seven-volume text called *Mijigpaid Tsoncha Galeno*. It is reported that Galen stayed back in Tibet, while the Chinese and Indians left for their own countries.

The nature and function of the mind and the role of *Lhung* (meaning wind or breath) energy in health and disease were to become part of Tibetan medicine in 708–833 AD. Yuthog Yonten Gonpo, a brilliant court physician in Tibet, travelled to other countries, enriching others and being enriched by them. He compiled and

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authored the fundamental textbook of Tibetan medicine called *Gyud Chi*[1] in the eighth century. He held an international conference. At the age of 55 he had taught over 300 students and reportedly lived up to 125 years.

In 814–336 AD, the then Tibetan king invited other physicians to work on medical texts and this was considered as the Golden era of Tibetan medicine. The fall of the royal dynasty ended this era of prosperity. The tenth century is the revival period of Buddhism and also of medicine. Two main schools of Tibetan medicine, Jangpa and Zurlug traditions, became very famous in the thirteenth–fourteenth centuries (Meyer 1995). Many scholars later contributed to the further development of Tibetan medicine. In the sixteenth century, in the 5th Dalai Lama's time, yet another young physician started working on a text commentary of the *Gyud Chi*, called *Blue Beryl*, which is the most renowned commentary so far. Seventy-nine medical *thangka*, or paintings, were contributed by him. He is called Desi Sangye Gyatso (1653–1705), and he also established a medical college and monastery. In eighteenth and nineteenth centuries once again Tibetan medicine flourished up to the time of the 13th Dalai Lama, during whose time the Rev. Khyenrab Norbu (1883–1962) became the director of the Men-Tsee-Khang School of Medicine and Astrology, which came into existence in Lhasa in 1916. All these ended in 1959, with the invasion by China and destruction of Tibetan culture.

Buddhism, especially Abhidharma and Vajrayana *tantra*s, had influenced Tibetan culture as evidenced by the introduction of concepts such as 'subtle consciousness' during the formation of the human body, role of mental poisons in the development of disorders and the importance of cultivating love, compassion, joy and equality by every physician.

The fundamental medical treatise, or *Gyud Chi*, is divided into four sections: (a) Basic Tantra, (b) the second and the more elaborate part is the Explanatory Tantra, (c) Oral Instruction Tantra, and (d) Subsequent Tantra. These are described, albeit briefly (Gonpo trans., Paljor et al. 2008).

The eight branches of Tibetan medicine are:

Lus	The body (including embryology, anatomy, physiology, pathology and pharmacology)
Byis-pa	Paediatrics
Mo-nad	Gynaecology
gdon	Disorders caused by evil spirits
mTson	Wounds infected by trauma
Dug	Toxicology
rGas	Rejuvenation
Ro-tsa	Aphrodisiacs

The chapters of the books of Tibetan medicine are written and translated in archaic and poetic language with abundance of metaphors and astounding range of medical illustrations. To give the flow of the ancient culture, while paraphrasing the texts, the author has retained the original format.

[1]The correct spelling is *rGyud-bZhi*, but for easier pronunciation this book is being uniformly referred to here as *Gyud Chi*.

13.2 The Basic Tantra

The first part of Tibetan medicine is called the Basic Tantra, from the secret quintessential instructions of the eight branches of the ambrosia essence *tantra*. The Chap. 1 starts with salutations to the Buddha. A city of medicine called *Ta-na-dhug* (beautiful to behold) is mentioned. There are precious gem cures for 404 disorders of:

- *Lhung* (Air)
- *Tri-pa* (Fire)
- *Bad-kan* (Earth and Water)
- *Den-pa* (Combined force of the above three)
- *Due-pa* (imbalanced state of the above three)

The above are cool medicines for hot disorders and warm ones against cold disorders. These alleviate 1080 kinds of interfering forces and fulfil all wishes.

13.2.1 Where the Medicines Come from

1. To the south of the city lies a mountain called *Big-jye* (penetrative) which is endorsed with energy similar to the sun. On the top is a medicinal forest covered with *Se-du, Na-le-sham, Pi-pi-lung, Tsi-ta-ka.* These are hot, sour and salty in taste and have sharp and hot potencies and can treat cold disorders. The roots, trunks, branches, leaves, flowers and fruits are rich in fragrance, appealing and beautiful. These prevent cold disorders from influencing people.
2. In the north lies the mountain called *Gang-chen* (snow capped) and it has energy similar to that of the moon. On the top lies the forest covered with *Tsendhen, Ga-bur, A-ga-ru* and *Nim-pa*, etc. These have bitter, sweet and astringent tastes with cool and blunt potencies to cure hot disorders. The roots, trunks, branches, leaves, flowers and fruits are rich in fragrance, appealing and beautiful to behold. These prevent hot disorders.
3. To the east of the city lies the mountain called *Poe-ngad-dhen* (fragrant), which is covered with a forest of *A-ru-ra.* The roots, trunks, branches, bark, leaves, flowers and fruits cure the disorders of the bones, muscles, vessels, ligaments, skin, visual organs, sense organs and vital organs. At the top of the tree five kinds of *A-ru-ra* fruit ripens. These are enriched with six tastes, eight potencies, three post-digestive tastes and seventeen qualities that cure all kinds of disorders. The fragrance of the forest will prevent 404 disorders.
4. To the west of the city lies the *ma-la-ya* mountain (garland), where very superior medicines grow. Five types of *Chong-shi,* five types of *Drak-shun,* five types of medicinal water, five types of hot springs exist there. These alleviate all the disorders. The city is surrounded by saffron meadows and is filled with the fragrance of the incense. All kinds of medicinal stones and earth are found in the rocks. Peacocks, *shang shang*s, parrots and other birds sing on the forest branches, while elephants, bears and musk deer live on the ground.

5. At the centre of the palace, medicine Buddha sits on a lapis lazuli throne. He enlightens them with aquamarine light of knowledge. He is surrounded by retinue of gods, of sages, of Buddhists and non-Buddhists. The following is from the Basic Tantra.

The master was surrounded by four retinues, a retinue of gods, a retinue of sages, a retinue of non-Buddhists and a retinue of Buddhists. The god's retinue included the celestial physician Praja-Patidaksa, the Asvini-Kumaran, the divine sovereign Indra, the goddess Amrita-Devi, etc. who sat with many other celestial beings.

The retinue of sages included the great sages Atreya, Agni-vesa, Nimin-Dhara, Kasyapa, Caraka-Pariv-Rajika, Bharadvaja, Dhanwantari, Punarvasu, etc. who sat with many other sages.

The forefather Brahma, Shiva, Vishnu, Sadmukha-Kumara, etc. were among the non-Buddhist retinues who sat with many other non-Buddhists.

The Buddhist retinue included Manjushri, Avalokiteshwara, Vajrapani, Ananda, Kumara Jivaka, who sat with many other Buddhists.

When Buddha teaches, these are understood by each in his own traditions and systems. This is called 'the tradition of the Sage' as it rectifies one's defects of body, speech and mind and balances the faults of others. See Fig. 13.1 for elaborations on roots of health and disease and Table 13.1 for treatments.

Four Remedial Measures

1. Diet
2. Lifestyle
3. Medicine
4. External therapy

13.3 The Explanatory Tantra

The second part is called the Explanatory Tantra. The King of Aquamarine Light, the supreme healer, arose from meditative concentration and entered into healing meditation called "Lion of Eloquence", and following this thousands of infinitely coloured rays radiated from the crown of his head, thereby eradicating physical defilements of sentient beings of 10 directions. After pacifying all the disorders of *Lhung*, *Tri-pa* and *Bad-kan*, the rays withdrew to the crown of his head. From his body emanated the Sage Rig-Pai-Ye-She and from his speech, Yid-lay-Kye, who requests the former to teach the Explanatory Tantra.

This Tantra states that there are four components of the science of healing:

i. Subject of healing—The body for which the healing is meant and the disorder that come from the body
ii. Means of healing—Lifestyle, diet, medicine and external therapies
iii. Method of healing—Remedial means to maintain health, promote long life and to treat the disorder of imbalance through method of examination, ways of treating a disorder and the actual means.
iv. The healer—Qualities of the physician

The Explanatory Tantra uses the metaphor of a tree. The various metaphors used in these texts are illustrated in exquisitely executed *thangka*s (see Figs. 13.2, 13.3 and 13.4).

Three Roots of Health and Disease

NaD (3 kinds)	*Lu-zung* (7 kinds)	*Dri-ma* (3 kinds)

NaD (3 kinds)

Lhung (Vata)	*Tri-pa (Pitta)*	*Bad-kan (Kapha)*
Life Sustaining	Digestive	Supporting
Ascending	Colour regulating	Decomposing
Pervasive	Accomplishing	Experiencing
Fire Accompanying	Sight Clearing	Satisfying
Descending	Complexion Clearing	Connecting

Lu-zung (Dhatu) (7 kinds)
Seven body constituents:
1. Nutritional essence
2. Blood
3. Muscle
4. Fat
5. Bone
6. Bone marrow
7. Regenerative fluid

Dri-ma (Mala) (3 kinds)
Waste products:
1. Feces
2. Urine
3. Perspiration

Fig. 13.1 Three roots of health and disease. *Note* This figure in the original text is running matter, with longwinded sentences. This has been converted into a chart format for easy understanding

Table 13.1 Treatments

Disorder	Diet	Lifestyle	Taste and potency	Therapies	External therapies
1. *Lhung*	Meats of horse, donkey, marmot, one year old meat, *Sha-chen*, mustard oil, old butter, molasses, garlic, onion, milk, *chang* (made of *Cha-wa*, *Ra-nye*, molasses and bone)	Warm region company of loved ones	Medicines having sweet, sour, salty taste with oily heavy and smooth potencies	Massage and horme	Soups and medicinal butters are pacifying preparations
2. *Tri-pa*	Curds, butter milk of cow, freshbutter, meat of wild animals, goat and hybrid animals, fresh barley porridge, stem of *kyap* and *khur-mang* – natural cool Water	Relaxing and staying in cool place	Sweet, bitter astringent with cool, wet, blunt potencies	Inducing sweating, venesection, and water therapy	Decoctions and powders are the two pacifying preparation and purgation is the evacuative therapy
3. *Bad-kan*	Lamb, wild yak meat, carnivorous meat, fish, honey, cooked warm dough of old grain, female yak yoghurt butter milk, *chang* and boiled water	Exercising and staying in warm place	Hot, sour, astringent with sharp, rough and light potencies	Compression and moxibustion	Pills and calcinated powders are the pacifying and emesis is the evacuative therapy

Note This table in the original text is running matter, with longwinded sentences. This has been converted into a chart format for easy understanding

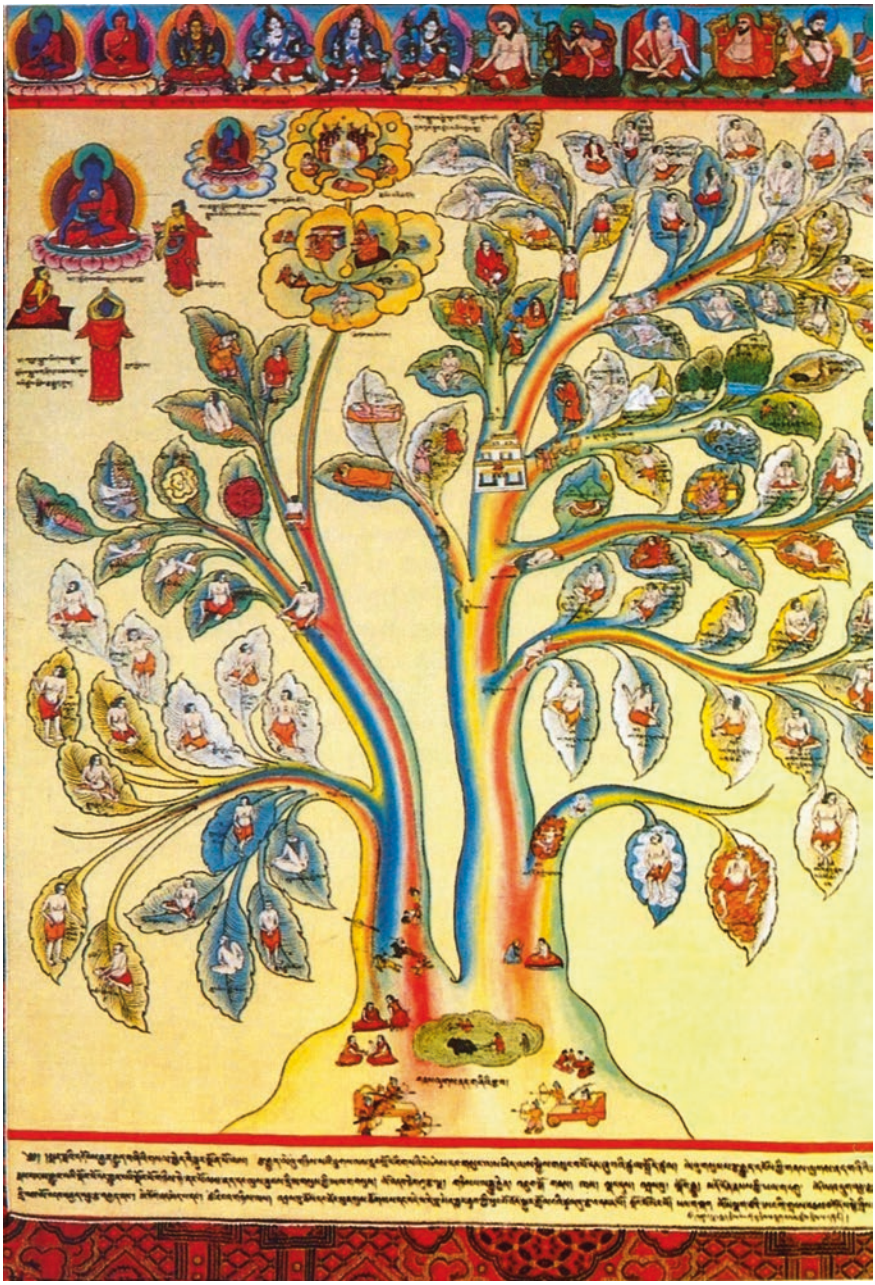


Fig. 13.2 Allegorical tree depicting the two trunks of health and disease. *Source* Fundamentals of Tibetan medicine (2009). *Courtesy* of the Men-Tsee-Khang

Fig. 13.3 Allegorical tree depicting the three trunks of visual, sphygmology and interrogation. *Courtesy* of the Men-Tsee-Khang. *Source* Fundamentals of Tibetan Medicine (2009)

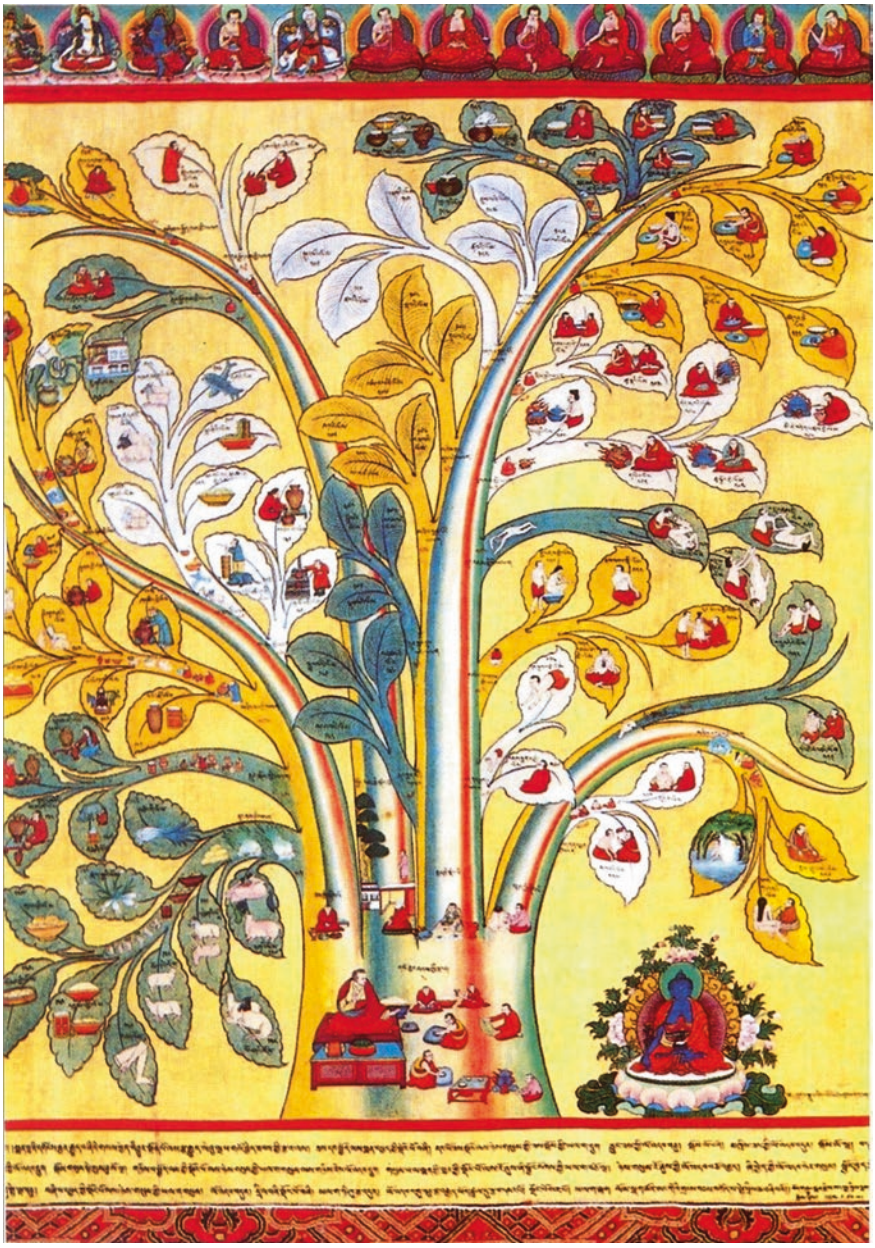


Fig. 13.4 Allegorical tree depicting the four trunks of diet, behaviour, medicines and accessory therapeutic techniques. *Courtesy* of the Men-Tsee-Khang. *Source* Fundamentals of Tibetan medicine (2009)

Table 13.2 A metaphor of tree for health and disease

		NaD
1. Healthy trunk:	3 branches	Body constitution Waste products
2. Diseased trunk:	9 branches	Cause Conditions Entrance Site Pathway Time of manifestation Fatal consequence Contraindication Condensation
3. Visual examination:	2 branches	Tongue analysis Urine analysis
4. Palpation:	3 different natures	Pulse characteristic of *Lhung* Pulse characteristic of *Tri-pa* Pulse characteristic of *Bad-kan*
5. Interrogation:	3 branches	Condition Sign and symptoms Dietary and lifestyle guidelines
6. Diet:	6 branches	Foods and drinks for *Lhung* Foods and Drinks for *Tri-pa* Foods and Drinks for *Bad-kan*
7. Life style:	3 branches	Recommend lifestyles for *Lhung* Recommend lifestyles for *Tri-pa* Recommend lifestyles for *Bad-kan*
8. Medicine:	6 branches	Taste and potency branches for each of *Lhung, Tri-pa* and *Bad-kan*).
	6 branches	2 Pacification medicine each for *Lhung, Tri-pa* and *Bad-kan*
	3 branches	Evacuative medicine for *Lhung, Tri-pa* and *Bad-kan*
9. External therapy:	3 branches	External therapies for *Lhung* External therapies for *Tri-pa* External therapies for *Bad-kan*

13.3.1 Types of Health and Disease

The tree roots of health and disease require nine ways of examination.

1. Healthy condition
2. Diseased condition
3. Visual examination
4. Examination by palpation
5. Examination through interrogation
6. Diet
7. Lifestyle
8. Medicine
9. External treatment

See Table 13.2 for a discussion on the metaphorical tree of health and disease.

In summary, there are 47 branches, 88 leaves on the root on the basis of health and disease, while 38 leaves on the root of diagnosis and 98 leaves on the root of treatment totalling to 224 leaves. On top of the root/tree of health trunk, 2 flowers of health and longevity are there which gives rise to 3 ripened fruits of dharma, wealth and happiness.

13.4 The Qualities of a Physician

The qualities of the healer as described in the classical text *Gyud Chi* (Gonpo trans., 2008, pp. 287–297) are intelligence, compassion, being committed, dexterity, diligence and expertise in upholding high moral values.

Being intelligent is having the virtue of broadmindedness that facilitates the comprehension of all the concise and detailed treatises of medical science, mental stability that enables the physician to practice without any apprehension, and discerned mind that helps in developing clairvoyant through analytical approach. It is the supreme among the prerequisites of becoming an eminent physician.

Being compassionate is to have an enlightened mind, the Boddhicitta, which requires preliminary practice to observe and realise the true nature of all sufferings, develop a true aspiration to help all sentient beings, have absolute faith, and avoid discrimination between good or evil. It is followed by analytical meditation of the thoughts and actual practice of compassion, love, joy and equanimity without any restrictions on time and boundaries. At the same time, realise the virtuous qualities of the medical traditions and impart treatment to the patients equally. Such spiritual quality ensures easy cures and assists in a large number of recoveries.

Being committed involves consistent mental obligation towards one's master and text as highly grateful, etc. respect for medical instruments and consideration of medicine as a precious jewel, nectar and substance for spiritual offering. It demands procedures of consecration, visualisation, spiritual and recitation of medicine Buddha mantras. Undertaking thoughtful commitment ensures blessing, auspiciousness and merits.

Dexterity involves the role of the physician's body, speech and mind. A skilled hand facilitates expertise in preparing effective medicines, in making excellent medical instruments and performing effective applications. Pleasant words enable the patient to be joyful. Intelligence, brightness, theoretical and practical knowledge without ignorance needs to be mastered and eventually one masters all the arts.

Diligence involves two aspects of fulfilling one's own need and the needs of the others. To become a competent physician it involves cultivating the cause, seeking favourable conditions, generating devotion to one's companions and employing incessant efforts to become fully habituated. The cause of becoming a qualified physician is to thoroughly learn the fundamentals of reading and writing. The determination of whether one can become learned or not depends on this primary learning. Seeking favourable condition means to find a master. This has three features: qualities of the master, how to seek the master and the objective of seeking the master. The qualities of the master are: having profound knowledge of different medical studies and its practice, being enriched with various medical instructions, having forbearance, being non-materialistic and compassionate and worthy

of veneration. The right approach for seeking the master is to single-mindedly entrust oneself to the master without any reservation against the teaching. Every assignment should be performed without deceit. Conduct should be in total complaisance with master's aspirations. Realise his invaluable kindness and gratitude and feel grateful to him all the time. The objective of seeking the master is to enable one to quickly master the knowledge and ultimately become learned.

Generating devotion towards one's companion means to obtain important instructions and knowledge by means of intense discussions and debating with fellow companions. One should always bear the important teaching in one's mind and contemplate on its implication. Avoid procrastination as it is an enemy that hinders progress in the learning.

Employing incessant effort becoming fully habituated requires experiencing consistently on all the theoretical and practical knowledge which one has acquired either from seeing or hearing. This helps oneself to practice thoroughly so that one becomes accustomed to it without any doubt.

Diligence in the needs of others primarily concerns service for the patient. Any assignment related with the treatment should not be delayed or disrupted. Like a person who will be faced with execution if he fails to cross a high narrow wall carrying a pot full of melted butter on one's head without spilling even a drop, one must always assiduously endeavour to give timely treatment to the patient with single-minded concentration.

To be proficient in the social ethics, it entails three conducts of worldly, religious and combination of both. First, one must study hard to become learned and treat everyone with loving nature without any discrimination. One should come hard if leniency does not help. Equipped with these three qualities will fulfil the aspiration of the worldly conduct. Complying with spiritual conduct gives a calm disposition, makes one pleasant to be with, provides contentment and eventually benefits oneself and others. This conduct pertains to taking care of the sick and the destitute with extreme compassion. On doing so, the superior will admire and fulfil one's needs.

Possessing all the six prerequisites and becoming an eminent physician will undoubtedly reap the reward of fame, wealth and ultimate happiness.

The nature of the learned physician is to fully understand all of the distinct characteristics of every aspect of *Nye-pa* and *No-ja* in their balanced and imbalanced status, and to know all the characteristics of the remedial measures.

The definition of *Men-pa* involves those who cure disorders and help in the well-being of the body, those who are sensibly courageous in employing various external therapies and those who are highly honoured by kings to be their king.

The unsurpassed physician is the highest of all who has conquered the causes of three mental poisons together with their corresponding resultant disorders. The extraordinary physician is the one who has a clairvoyant mind and is compassionate. They righteously rectify the defect of their body, speech and mind and harmonies all the imbalances of others. The ordinary physician includes *Nang-rig Men-pa Je-jang, Men-pa* and *Lae-gom Men-pa.* All these lineages of physicians, despite being ordinary, are the real friends of all suffering beings. Those driven by greed and temporary gains, who are totally ignorant of the vast medical teachings but use some medicine, medical instruments and a scripture are quacks and are agents of death.

However, only two types of physicians have been generally categorised: the supreme and the inferior. The supreme physician is the one who holds a genuine medical lineage; is intelligent, loyal and committed, is well-versed in medical theories, is skilled in employing instructional therapeutic approaches appropriately, is well-acquainted with all of the practical applications, is fully devoted to spiritual practice and has therefore forsaken sensual desire, is serene of body, speech and mind, is skilled in producing medicines and making medical instruments, is compassionate to all sentiment beings, has unwavering devotion to others' needs and considers others' need as one's own, is not ignorant in every aspects of medical theory and its practical approaches. They are the sole protectors of suffering beings and are like the child who holds the lineage of the eminent medical knowledge holders and the sages. This is believed to be the veritable emanation of the medicine Buddha, the king or physicians. The physician who is devoid of the above qualities is categorised as inferior.

13.5 Brief Description of 7 Parameters of the Human Body

1. Embryology: Deals with conception, prenatal development and signs of birth.
2. Similes of Body: This section describes parts of the body and deals extensively with metaphors.
3. Anatomy: This consists of body constituents in terms of quantity, network of connecting channels, vulnerable parts and body orifices.
4. Physiology: Physiology deals with the primary function of three humours, seven bodily constituents, three waste products, digestive heat and digestive system, the characteristic and types of *Lhung, Tri-pa* and *Bad-kan.*
5. Actions of the Body: Actions of the body could be in relation to the body, speech and mind. Body could be male, female or neuter. Age ranges from childhood up to 16, adulthood up to 70 and above it is old age.
6. Classification: Classification of disorders is basically of this life or karmic imprint or both. There are diseases in general of males, females or children. There could be additional disorders of infiltration, conversion or confrontation. The location could be whole body, upper, lower, internal, external or all parts. Body is classified on the basis of gender, age, nature and state of health.
7. Signs of Death: Could be distant, imminent, unconditional and certain. Distant signs are based on sudden behaviour change, premonitory dreams or the signs seen in the messenger.

The 7 characteristics will be further elaborated below:

13.5.1 Embryology

It includes causes of conception, condition of prenatal development and signs of birth. This section will be described in detail in the next chapter dealing with developmental approach (Garret 2008).

13.5.2 Similes of the Body

(The body is described with an architectural metaphor of a palace, king and his entourage). See Table 13.3 for details.

Table 13.3 Similes of the body

Anatomical parts	Compared to
Two hip bones	Foundation of the wall
Vertebral column	Piles of gold coins
Main blood vessel	Central pillar of agate
Sternum with its four corners	Cross beam of the ceiling
24 Ribs	Well laid rafter
Costal cartilage	Bracket supporting rafters
Channels (nervous and blood vessels), tendons and ligaments	Twigs above the rafter
Flesh and skin	Interior/exterior plasters
Clavicles	Parapets to the palace
Scapulas	Buttress of the palace
Head	Dome on the roof top
Apertures or five sense organs	Windows
Cranium	Covered roof
Aperture at the crown	An open chimney
Left and right ears	Raised head of 'Garuda' (sacred eagle)
Nose	Show of beauty gracing the roof top
Tangled hair	Tiny male and female bricks
Two hands	Banners outside the palace
Upper and lower abdomen	Upper and lower corridors
Diaphragm	A silk curtain drawn together
Heart	The king on his own
5 Posterior lobes of the lung	His internal ministers
5 Anterior lobes of the lung	His prince
Liver and spleen	Senior and junior consorts
Kidneys	External ministers
The Colon and Intestines	Attendants to the queen
Seminal vesicle	Store house of treasures
Stomach	Cooking pot
Gall bladder	Bag of spices
Urinary bladder	Earthen pot with water
Lower orifices	Fitted drains
Legs	Horse tethering posts
Vulnerable parts	Envoys of the king

Table 13.4 Body constituents in amounts

Body constituents	Amounts
Lhung	One's own urinary bladder
Tri-pa	One's own scrotum
Bad-kan	3 cupped handful each
Blood and faeces	7 cupped handful each
Urine and *Chu-ser* (lymph)	4 cupped handful each
Body oil and fats	2 cupped handful each
Dang and sperm	1 handful each
Brain matter	1 handful each
Muscle in man	500 fist full
Muscle in woman	500 + 20 (breasts and thighs)
Bones	23 types—28 vertebrae, 24 ribs, 32 teeth, 360 fractions, 12 major and 210 minor joints.
Ligaments	16
Tendons	900
Hair	21,000
Skin pores	35 millions.
Vital and vessel organs	5 + 6
Orifices	9
Average/normal height	one fathom square of an individual
Abnormal body height	body measures only 3½ cubits

13.5.3 Human Anatomy

This includes the necessary amount of bodily constituents including *Lhung, Tri-pa* and *Bad-kan*, network of connecting channels, vulnerable parts and body orifices. See Table 13.4 for details.

Connecting Channels

The network of connecting channels is presented under 4 headings: the manner of formation of channels, channels of existence, the interconnecting channels and the life channels. In the formation of channels, three main channels develop from the foetal umbilical cord: the brain (upper part), aorta and its subsequent branches (middle part) and sexual organs (lower part) (Fig. 13.5).

There are 3 types of channels: these are channels of existence, interconnecting channels and life channels. There are 4 types of channels of existence such as: 24 specialised and 500 subchannels surrounded which are responsible for regulation of the functions of every bodily component and control of all aspect of bodily system in order to sustain life. The four types of channels are the brain, heart, navel and genitals. The brain includes sensory organs, perceiving and grasping; the heart

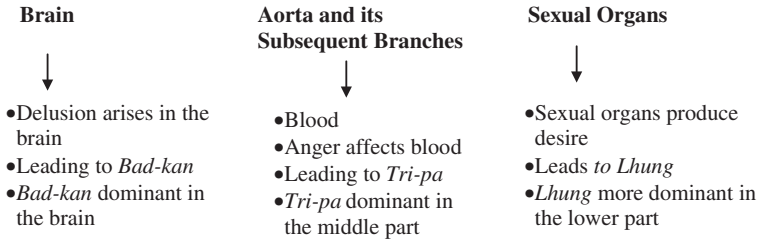


Fig. 13.5 Formation of channels of the body

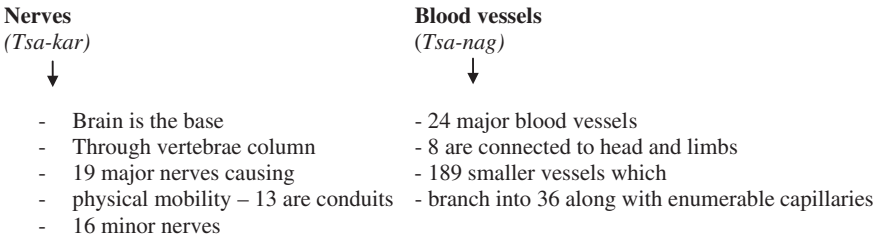

Nerves
(Tsa-kar)
- Brain is the base
- Through vertebrae column
- 19 major nerves causing
- physical mobility – 13 are conduits
- 16 minor nerves
Blood vessels
(Tsa-nag)
- 24 major blood vessels
- 8 are connected to head and limbs
- 189 smaller vessels which
- branch into 36 along with enumerable capillaries

Fig. 13.6 Interconnecting channels of the body

includes memory and consciousness, clarity and development of consciousness; the navel includes the constructive function, formation and development of the body systems; while the genitals have a reproductive function and are responsible for progeny and family lineage.

The interconnecting channels include the nerves and blood vessels (see Fig. 13.6).

There are three life channels:

1. Through the body—head to toe
2. Moves with breath
3. *Lha* that wanders in the body

Vulnerable Parts

There are vulnerable parts in the life channels: Muscles (45), fats (8), bones (32), ligaments and tendons (19), vital organs, vessel organs (internal organs including both the vital and vessel organs is 13); and channels (190). Any injury to muscles may lead to instant swelling, to bones may lead to excruciating pain, to ligaments may lead to deformity or paralysis, and to channels, fats or internal organs may lead to loss of life. These are called vulnerable parts as they may cause death,

paralysis and complications in treatment. The number of vulnerable body parts in the head is 62, in the neck 33, on the upper/lower trunk 95, four limbs 112. Of the total 302 vulnerable parts the level of vulnerability is as follows:

96	Extreme	–	even a competent doctor cannot cure
49	Moderate	–	only an experienced doctor can cure
117	Remaining	–	can be cured by anyone

Body Orifices

There are external and internal orifices. There are 7 external orifices in the head and 2 in the private region. In females, cervix and breasts are the additional orifices. Internal orifices include a passage for the movement of life energy, 7 passages for the transportation of the seven bodily constituents, 3 passages for the excretion of the three waste products and 2 passages for the food and lymph.

13.5.4 Physiology

This entails the basis of affliction (*Nod-ja-kham*) and the factors that inflict harm. These are as listed in Fig. 13.7.

Nod-ja-kham (Basis of Affliction)			***Nod Jet Nye Pa*** (Factors that inflict harm)
Lu-Zung	***Dri-Ma***	***Tri-Pa***	***Lhung* or *Lhung Tri-Pa***
Blood Muscle Fat Bone Marrow Regenerative Fluid	Feces Urine Perspiration	Proper Digestion End Product ***Dang*** Resides in Heart Energy Pervades Throughout the Body	*Bad-Kan* Process of conception Bodily constitution *Me-drod* Nature of bowel Location Functions & Characteristics *Tri-Pa* (5 types) *Lhung* (5 types) *Bad-Kan* (5 types)

Fig. 13.7 Basis of affliction

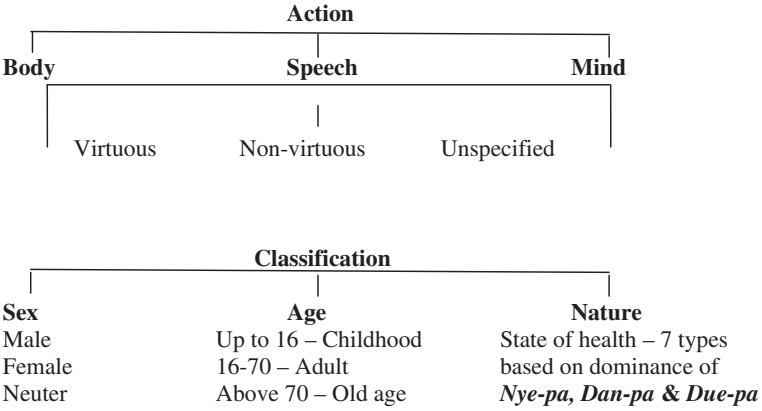
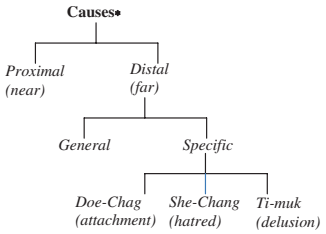


Fig. 13.8 Action and classification of the body



Note * There are neutral causes, but *Ma-rig-pa* (ignorance) is the general cause of all disorders.

Afflictions may be of three types: *Lhung* (life-sustaining, ascending, pervasive, descending, fire-accompanying), *Tri-Pa* (digestive, colour transforming, accomplishing, related to sight and complexion clearing) and *Bad-Kan* (supporting, decomposing, experiencing, satisfying and connecting).

13.5.5 Action of the Body

These include the body, speech and mind. All the three can be virtuous, non-virtuous or unspecified. The sex of the body may be male, female or neuter. The stages of the body are childhood (up to 16 years), adulthood, from 17 to 70 years and old age from 71. States of health of the body may be of seven types based on dominance of *Nye-pa, Dan-pa* and *Due-pa.* Detailed physical and psychological descriptions on *Lhung, Tri-pa* and *Bad-kan* are given in Fig. 13.8.

***Lhung* Dominant**—Stooped, thin, sensitive to heat and cold, cracking joints, diet of sweet sour eatables, vultures, crows and fish; fond of singing, laughing, quarrelling and archery.

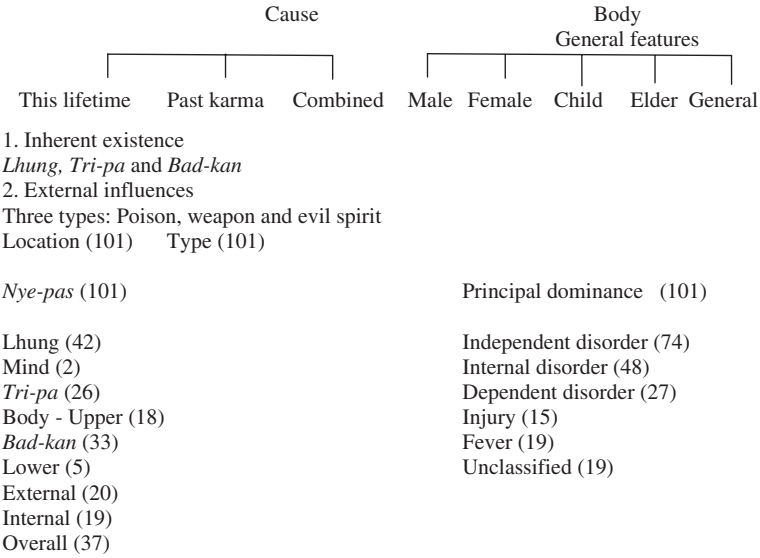


Fig. 13.9 The classification of the disease. *Footnote* There are numerous classifications along the lines of the types given above which often may contradict each other

***Tri-pa* Dominant**—Excessive thirst, hunger, yellowish hair and complexion, intelligent, proud, strong body odour, middle sized, fond of sweet, bitter and astringent taste and cooling diet.
***Bad-kan* Dominant**—Cool body temperature, obese, fair complexion, well-built body, deep sleep, patience, tolerance to hunger thirst and mental suffering, fond of hot, sour and astringent taste and rough quality of food.

13.5.6 Classification

Classification is based on the cause, the body and the general features of *Nye-pa*. See Fig. 13.9.

13.5.7 Signs of Death

These are given with detailed description:

i.	Distant signs are represented	in the messenger
		in the dream
		in sudden behaviour change
ii.	Imminent	
iii.	Uncertain and certain	

Distant
1. General
Moe-rig-pa (Ignorance)

2. Specific
Doe-Chag (Attachment)
She-Chang (Hatred)
Ti-muk (Delusion)

Proximate
1. *Lhung* (Hot & Cold)
2. *Tri-pa* (Hot)
3. *Bad-kan* (Cold)

Fig. 13.10 Cause of the disease

13.6 The Human Body in Disease

The human body in disease is described under 7 headings.

1. **Cause of the disease**: *Ma-rig-pa* (ignorance) is the general cause of all disorders, but *Lhung* being associated with both of hot or cold disorder and located in the upper, lower, internal, external and all the parts and hence considered as the sole cause of all disorder (see Fig. 13.10).
2. **Condition of the disease:** The three main conditions that help the cause of disorder to manifest are progressive condition (related with inadequate, excess and adverse effect of seasons, sense organs and lifestyle), the accumulative manifesting condition (related with potency of diet and season) and the actual arising condition (such as unhealthy dietary and lifestyle factors).
3. **Mode of entry:** When a cause stimulated by conditions of unhealthy food and lifestyle results in gradual accumulation and progression of such unhealthy food essence in their respective location of the body, like the gradual accumulation of clouds before rain, and because of their interdependence, the three humours affect the body constituents and waste products, through its 6 pathways and thereby manifest in full-blown diseased state.
4. **The location:** *Lhung* resides in colon, hip, bones, joint, skin and ears, whereas *Tri-pa* resides in blood, sweat glands, nutritional essence, *chuser*, eyes, skin and intestine. *Bad-kan* is located in chest, throat, lungs, head, nutritional essence, muscle, fat, bone marrow, regenerative fluid, faeces, urine, nose, tongue and stomach respectively.
5. **The characteristic:** Excess, deficiency and disturbed are the imbalanced states of *Nye-pa,* 7 bodily constituents and 3 waste products. These are detailed explained through causes, signs and symptoms.
6. **The classification:** Classification is based on the cause, the body and the general features of *Nye-pa* (see Fig. 13.9).
7. **The individual significance of a disorder:** It is described under the cause of disorder, the dormant stage of the disorder, the actual manifestation of the disorder and full blown stage of the disorder.

13.7 Treatment in Tibetan Medicine

Treatment includes fourfold steps, namely, dietary guidelines, lifestyle behavioural counselling, medications and therapies.

1. **Diet**: Proper intake of food and drink is essential to sustain body and life. It is explained under the three divisions of general knowledge of dietetics, dietary restrictions and right intake of food and drink.
2. **Behaviour**: Behavioural regimen is explained through three divisions such as the routine behavioural regimen, the seasonal behavioural regimen and the incidental behaviour regimen.
3. **Medication**: Principles of compounding medicine includes four basic aspects which are taste, post-digestive taste, potency and the method of compounding. Medicines are classified into pacifying groups that aim to balance the body's principal energies and evacuating medication are recommended to cleanse any remnants of the disease in the body, through *Las Nga* (*Panch Karma)*.
4. **Therapy**: It constitutes three different types of classification based on the patients' responses, while undergoing the treatment and the actual applicability of the therapeutically treatment into as mild, rough and drastic therapies.

Treatments for afflictions include compounding of pacification medication and compounding of evacuative medication. Pacification medication includes:

Thang—decoction
Che—paida
Ril-bu—pill
De-gu—paste
Men-mar—medicinal *belta*
Men-chang—medicinal wine
Dri-ta—concentrated decoction

Evacuative medication includes: Mild aroma, purgation, emetics, strong aroma, and nasal cleaning. These cleanse disorders of TB.

External therapies may be mild, rough or drastic. Mild therapies include *Dug* (compression), *Lum* (medical baths), *Ju-pa* (massage), rough therapies may include *Tar* (vein section), *Sek* (moxibustion) or *Uk-pa* (surgical procedures), while drastic therapies include *Dral* (incisions), *Chod* (amputation) and *Jin-pa* (expulsion).

Medical instruments also in use for examination of pain and foreign bodies are forceps, lancets, surgical spoon and surgical instruments.

Thus, the Tibetan medical system is a unique combination of medical systems of India, China and Greece together with the primary contribution of its inhabitant people, and many reputed scholars, from the religious practices of the original or local Bon religion of Tibet and Buddhism, have left indelible marks on the overall development of the traditional Tibetan medical system.

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Chapter 14
Developmental Approach to Child Care

14.1 Embryology

Tibetan medicine having absorbed the early Indian *Abhidhamma* literature such as Vasubandhu's *Abhidhammakosasabha Syam*, discussed topics such as foetal development. Developmental approach begins with the development of the foetus, followed by care of the infants and children and finally deals with minor and major (serious) childhood disorders. Embryology has been dealt extensively by Garret (2008).

Embryology consists of three aspects and these are: causes of conception, condition for prenatal development and signs of birth.

14.1.1 Causes of Conception

- Union of non-defective semen of the father and ovum of the mother.
- The consciousness of the being in the intermediate state.
- Imprint of past *karma* with the force of afflictive emotions and combination of the five elements. For example, fire produced by the friction of two sticks resembles the formation of an embryo through coitus.

The absence of karmic imprint hinders the entry of consciousness.

The following elements are essential for normal conception:

Sa (earth) without which matter cannot be found.
Chu (water) without which there is no cohesion.
Mae (fire) foetus cannot mature.

Translations from Tibetan medical texts in this chapter are by Dr. Tenzin Lhundup.

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Lhung (air) without which there is no growth.
Nam-ka (space) without which there is no room for growth.

The symptoms of menstruation are feeling of general weakness, unpleasant face, quivering in the breasts and lower back, swelling of eyelid and pelvis as well as increase in sexual desire.

14.1.2 Conception

During 3 days of menstruation and the 11th day after menstruation, conception does not take place. The cervix opens and thereafter the child can be conceived till the 12th day. If the child is conceived on the 1st, 3rd, 5th, 7th, and 9th day (odd days), it will be a male child. If the conception takes place on the 2nd, 4th, 6th and 8th day, it will be a female child. The uterus will not receive semen after the 12th day because the cervix closes like a lotus after sunset.

Within the seed, predominance of the semen produces a boy and predominance of the ovum results in a girl. If they are of equal strength, a hermaphrodite is born. If the seed splits, twins are born. Harmful influences can result in nonhuman form or human form with physical deformities.

14.1.3 Signs of Conception

The reproductive seed is held within the uterus and there will be the feeling of sexual contentment followed by lethargy and heaviness of the body.

The contribution of semen is to promote formation of skeletal tissues, brain and the spinal cord, while the ovum contributes to the formation of muscle tissues, blood and vital and vessel organs.

Sensory consciousness arises from the mind.

Sa (earth) forms flesh, bone, nose and sense of smell.
Chu (water) forms blood, body fluids, the tongue and sense of taste.
Mae (fire) provides heat, determines complexion, forms the eye and visual sense.
Lhung (air) responsible for respiration, formation of skin and sense of touch.
Nam-ka (space) forms various channels of the body and ears and sense of hearing.

The psychophysiological nature of the human being is determined by the predominance of the *Nye-pa* during prenatal development. The mother's diet and lifestyle during pregnancy will influence the *Nye-pa*, giving rise to seven body constitutions: *Lhung* to small, *Tri-pa* to medium and *Bad-kan* to large physiques, combination of all the three in equal proportions is the best, while dual combinations have moderate physiques.

Thus, the body is formed with the combination of the above causes, conditions and the law of interdependence. Prenatal development occurs in the following manner.

The main source of development is the navel. Two channels, one on the right and another on the left of the uterus, are connected to the navel of the embryo and the other end of the channels connected to ovary. It is the main source of nourishment. Thus, the nutritional essence of the mother's diet enables the foetus to develop. It is like the water from the reservoir enriching the field. The main source of development is the navel.

Ritual Prescribed for the Birth of a Male Child

During the dominant period of 'Castor' constellation, an attractive male statue from different types of metals totalling odd numbers should be made. It should be heated over coal till it turns red. It should be immersed in the milk of a cow that has borne a male calf. The statue should be immersed the same number of times as the number of metals used. Then one cupped handful of milk should be offered to the pregnant woman, along with equal amounts of sun and moon essences mixed with molasses. Finally, a spun thread of ram wool with a knot should be tied around the waist of the woman with the statue tied in male lamb skin fastened over the womb in an upright position.

14.1.4 Instructions

Till the completion of 8 months, the pregnant woman should avoid sexual intercourse, strenuous activities, sleepless nights, daytime sleeping and intentionally controlling the bladder. She must avoid foods that are hot, sharp, and have inherently heavy qualities. She should avoid a diet that causes constipation. Use of external therapies such as enema, purgation and bloodletting should be avoided as the above may cause miscarriage or termination of pregnancy.

During this period, there is heaviness in the cervical and pelvic region, emaciation of body, loss of appetite, yawning and stretching of limbs, lethargy and enlargement of breasts. There will be desire to eat sour and other kinds of foods. Complete restriction of the desired foods may lead to abortion or birth deformity, so small amounts of desired harmful foods may be permitted along with wholesome foods.

The various *Lhung* energies prevailing throughout various stages of the 36 weeks enable the foetus to develop systematically. In the first week of first month, the union of semen and ovum takes place like milk and a fermenting agent.

The zygote thickens during the second week and appears like curds in the third week.

In the 4th week, the zygote is round for male, irregular for female and oblong for hermaphrodite gender. Since the sex of the foetus is not yet determined, certain techniques are used to achieve preferred sex of the foetus. These techniques are so powerful that they can even change the karmic force.

3rd month—10th week: two shoulders and two hips formed.
11th and 12th week: nine orifices and shape of vital organs are formed.
13th week: six vessel organs acquire forms.
4th month—14th week: shape of humeres and femur are formed.
15th week: *tibia, fibula, radius* and *ulna* acquire form.
16th week: 20 digits are formed.
17th week: inner and outer connecting channels are formed.
5th month—18th, 19th and 20th week: muscle, fat, tendons, ligaments, bones and marrows are formed.
21st week: body is encased with skin.
6th month—22nd week: nine orifices related to senses open completely.
23rd week: hair, body hair and nails begin to grow.
24th week: vital and vessel organs fully nurture. The foetus can experience pain and pleasure.
25th week: *Lhung* starts to flow through various channels.
26th week: cognition becomes lucid.
7th month—27th to 30th week: all organs and parts are prominent and development is completed.
8th month—31st to 35th week: growth in size and strength takes place. Mother and child exchange high and low radiance period alternatively.
9th month—36th week: foetus experiences five feelings of detestation.
37th week: foetus turns upside down.
38th week: foetus turns its head down and may leave the womb.

Delivery can be difficult if the foetus has not developed normally due to severe bleeding or if the foetus is overdeveloped. Delivery can be delayed if the cervix is obstructed by the downward cleansing *Lhung*.

14.2 Childcare in Tibetan Medicine

Paediatrics is the second of the eight branches of Tibetan medicine as comes in the ninth section (of the 15 sections). There are three parts in the child care section. The first one extends up to care of children up to one year. The second one covers general paediatric disorders. The third one deals with disorders caused by evil spirits.

14.2.1 Neonatal Care up to One Year

(a) Soon after childbirth: Has six subsections
(b) Process of child care after 3 days: Has eight subsections
(c) Some additional points

Soon After Childbirth

(i) Auspicious signs

- Normal delivery with head coming out first
- Umbilical cord covers the upper part of the chest
- Cries soon after birth
- Elongated head and it is somewhat hard and not too soft
- Big forehead
- Clear complexion and skin
- Wing-like ears
- Suckles breast vigorously

The above signs indicate that the child will be easy to bring up, will be successful, happy and wealthy. Then the infant should be held close to the breast.

(ii) Inauspicious signs

- Opposite of all the above good signs
- Born with teeth
- Teething before six months
- Breach delivery
- Facing inwards

If the infant has the above signs, the child will be difficult to bring up, will grow up to be sad, poor and less intelligent.

Recitation of Auspicious Greetings

Whether the infant is born with good or bad signs—these recitations will be beneficial.

The chants go like this:

'Oh child—since you are born out of my precious heart, may you live a hundred years and may you see hundred *sTon'* (double, meaning 100 Buddha and 100 fruit-filled autumns).
May you live a hundred years.
May you live long to attain success and become famous.
May you surmount all the obstacles.
May you be healthy, wealthy, wise and lead a meaningful life'.

Cutting the Umbilical Cord

Care should be taken to cut the umbilical cord at a length of four finger width at the base (approx. 6 cm) from the navel of the child and the end where it joins the placenta. There should be no bleeding "*Rutha*" contained medicinal butter should be applied to the navel to avoid infection.

Auspicious Rituals

Bathe the infant in scented water with *poekar* (*guggal*) for clear skin. Then using a spoon like instrument on which is inscribed sacred letters HRI or DHI (Buddha) or (Manjushri) with saffron water is brought to the lips of the newborn and placed on the tongue. This is expected to promote good speech. This ritual is carried out once. The warm water scented with deer musk is poured over the baby to prevent obstacles from '*sadak*' (dangerous spirits from the environment such as land, tree, mountains).

For promoting intelligence, strength and longevity medicinal butter of honey, sugar and molasses along with concentrated decoctions of medicines are put over the mouth.

If the mother has no milk, a lactating woman of high class, goodness and wisdom can nurse the baby. The woman should have similar constitution of body as the mother. *Bhuzin* 6 (a medicinal compound), if given, promotes the nursing mother's health, strength and enhances lactation.

14.2.2 Childcare for Three Days of Birth

This has eight subsections.

(i) *Torma*: Offerings have to be made to God as the infant is prone to illnesses. The child's mind should be calm. Evil spirits can enter easily when the mind is disturbed. If there is doubt harm is bound to occur. No matter what family, community or place the infant belongs to, God gives him/her his personal protection. '*Torma*' is the offering made of barley flour and water made into conical shape. Along with it *chang* beer/alcohol or juices are also offered. This may be offered at home or in a shrine outside.

(ii) *gTa gZugs*: *PomTa* ritual is done by High Lamas or Masters. These religious rituals keep the evil spirits occupied otherwise can harm the infant. These are diversionary tactics to protect the infant from the evil spirits.

If it is a boy, he is represented by a bow and if it is girl, she is represented by an arrow. It is put in the centre surrounded with different grains, stones, water, soil,

spices, gems, dyes and so on. These are piled together and tied in a cloth. This is placed in different places as given below.

Namta Na (sky) ceiling
Barta Near the pillow of child bed
Sata The ground
sGo ta The main entrance of the house

Protective Rituals

Clean clothes that have been exposed to incense is used to cover the child. The smoke is produced by burning *guggal* and sesame.

Protective threads are tied on neck and hands of the baby to ward off evil spirits/obstacles.

Monthly Offerings to God

Torma (holy dough) to ward off evil spirits.

Naming the Child

Names are given on the basis of stars, planets and Gods. These are also determined by *Ruspa* (means bone but may refer to lineage or clan). Even sweet and auspicious names may be given. These have to be agreeable to parents and relatives.

When there have been frequent deaths they change the name of the baby frequently, almost every month.

If there have been only female children, Bhuthi (Bhu: Male *thri*: bring in) is the name given so next baby will be a male.

Piercing the Ears at the Eighth Month

Rub and massage the ears till they are numb. Then pierce with a needle back to the front. Start first with the right ear for a boy and left ear for the girl.

Diet and Medication

Give white molasses, ghee and honey everyday in the meals. Intake of lamb and yak meat is also recommended to avert muscle disorder, i.e. loose skin that is soft. *Saraswathi* medicinal butter is used to promote intelligence, good voice and speech and promote longevity.

Behavioural Prescriptions

- Avoid sunlight.
- Protect the eyes from the direct rays of sun.
- Avoid sitting with the baby close to the fire exposing the heels, head and fontanel.
- Avoid cool breeze as it causes blocking of ears and discomfort.
- Keep warm.
- Keep away from dangerous places such as banks of river, stoves, and fire.

How to Hold the Baby

The baby should be held safely. Before 6 months of age should not be made stand up—may dislocate the joints/hurt the liver and so on. The infant should be thus kept away from fire, water, birds, animals and contagious diseases.

To enhance sensory stimulation, massage the baby occasionally and protect the eyes of the baby from direct sunlight.

Some Additional Points

- **When the teeth erupts: Teething**

Eruption of teeth induces disorders. The pain experienced by the child is like the pain of the baby peacock when the feathers emerge from its skin. By this time the efficiency of *PomTa* diminished. A paste of honey, *amla* and *ajak* must be applied to the gum.

If the upper teeth erupt first it is not a good sign. Hence, there should be a ritual recitation of a text of *gShon Nu gDong* drug.

- ***Removal of the PomTa***

The *PomTa* is removed at 12 months with celebrations and lavish offerings to the God. *PomTa* protection lasts only for a year.

It may thus be seen that care of the infant begins from the point of conception, through the foetal development and includes phases of development through infancy and childhood.

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Chapter 15
Common Childhood Disorders and Treatments

15.1 History of Child Care

Working on child care was pioneered by Tekhang Jampa. He wrote the *Jepa Nyrechod Dophen Nying Nor*. His disciple was Khyenrab Norbu (1883–1962).

According to the 72nd Chapter of the fundamental text of Tibetan medicine, or *Sowa Rigpa*, known as *Gyudshi*, the age group covered under this is 0–16 years. From 16 to 70 years is adulthood and above 70 years is considered as old age.

Four areas of child care are covered in *Sowa Rigpa*:

1. Causes and Conditions
2. Types
3. Symptoms
4. Treatments.

15.1.1 Causes and Conditions

These refer to the mother as well as the child (see Fig. 15.1).

15.1.2 Types of Disorders in Child

A child may inherit illnesses from the mother or may suddenly acquire them. Acquired illnesses are classified mainly based on severity, frequency and fatality.

Jipai NaD: *Jipa* means child and *NaD* is a disorder. Translations from Tibetan texts in this chapter are by Dr. Tenzin Lhundup.

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In the Mother
(3 types)
a. Unhealthy diet and life style
b. Poor hygiene
c. Evil spirits
The above causes and the one below

In the Child
(3 types)
a. Evil spirits (15 in number)
12 Evil Spirits
2 Messengers/ Mode: 1 Male and 1 Female.
1-Male: *Kordak Gyalpo*
1-Female: *Senmo Modre* (A curse)

1- *Lha Chenpo*: The emanating source of evil sprits

↓

Deafness
Stammering
Blindness
Lameness
Hunchback
Cleft palette (Has surgical treatment)
The evil spirits causing could be warded off with the performance of rites and rituals while therest have no cure

b. Behavioural factors which is mainly due to mother' s negligence such as:
Injury
Fall
Battering
Making the infant stand up before he is ready
Injury to the umbilical cord
Allowing to cry a lot
Prolonged keeping in urine soaked clothes

c. Dietary factors: Intake of too hot or too cold food

The above together cause 24 diseases.

Fig. 15.1 Causes and conditions of illnesses in mother and child

Most Severe Disorders

1. *Rags Pai NaD*—Eight subtypes
   - Disorder of nerves/trembling
   - Lung disease
   - Liver disease
   - Loose motions
   - Vomiting
   - Contagious disorder
   - Navel/Umbilical disorder
   - Calculus (stones in kidney)

Moderately Severe Disorders

2. *Phra Wai NaD*—Eight sub types
   - Swollen head
   - Obstruction in throat
   - Spleen disorder
   - Gall Bladder/bile disorder

- Stomach disorder
- Intestine/colon disorder
- Mud eating
- *Sho Ras*: Disease caused by vitiated breast milk

Mild Disorders

3. *Shib Tsags NaD*
   - Eye disorder
   - Ear disorder
   - Mouth disorder
   - Lymph node
   - Nerve disorder
   - Muscle disorder
   - Worm infestation
   - Skin eruption/acne skin eruption infections

Detailed descriptions of these disorders are given in Box 15.1

Box 15.1 Detailed descriptions of paediatric syndromes mentioned above

1. **Rags Pai NaD: Most Severe**

(i) **Nervous (Serious Disorders)**

Lymph or serum affects the nerves of the chest or upper part of the body and causes swelling. Two types of this disorder are: Hot disorder and cold disorder.

Hot Disorder
The child has swollen chest and upper back, has fever, cries loudly, refuses breast feed, head and upper body thrust back, eye balls protrude, has dry mouth, cannot put feet on the ground, limbs are rigid, chest burns, coughing with sputum, yellowish eyes and empty vomiting. Excessive intake of highly nutritious food, warm weather, warm place and too much activity can cause the above.

Cold Disorder
Child has breathing problems, yawns, there is stiffness in the neck and unable to move properly. The above disorder could result due to untimely treatment of nervous and lymph/serum (*chuser* in Tibetan) disorder; excessive intake of cold food and drinks; inactive behaviour; staying too long in cold and damp place; wearing thin clothes. The disorder is worse in cold season, cold place and in cold temperature.

Examination:	Child's ear lobes/veins
	Mother's milk
	Pattern of crying
	Surface body temperature whether hot or cold
Heart disease:	Slow palpitation
Lung:	Cries all day
Liver:	Frowns
Stomach:	Burping
Spleen:	Swelling of the body
Colon:	Rumbling of stomach
Small intestines:	Loose motions
Bladder:	Painful (Passing of urine)
Contagious:	Frequent sneezing
Brain disease:	Yawning
Stomach and liver:	Hiccoughs

(ii) **Lung Disorders** (8 in adults—3 in children)

These are due to imbalance of 3 humours and contagious diseases.
There are three types
(a) *Tsa Zer* (Fever and pain)
(b) *Tsa Subs* (Fever and congestion)
(c) *Thangpo* (Chronic/Cold)

Source: (*Sorig Chaetus Rinchen Phrengw/authored by Deumar Geshe Tenzin Phuntsok*)

(a) ***Tsa Zer*** (**Hot/fever and pain**)

Infection in the lungs, pain, mother's intake of excess of hot, cold, salty, fermented food, cold meat or *chang* beer.
Allergens due to dust/breeze, etc., excessive activity could cause this disease.
Signs
Pulse is weak (thin)
Dull mind
Abnormal sounds from the chest
Short breaths
Coughs with closed eyes
Sputum comes out
Unable to vomit
Voice is obstructed

(b) ***Tsa Subs*** (**Fever and Congestion**)

Contagious in nature.

Signs
Cough strongly without sputum
Fever
Strong pulse
Prolonged coughing
Scratches self and mother
Breathing problem
Nauseous

(c) ***Thangpo*** (chronic and cold cough): Factors like improper intake of food, high potency of cold medicine, hot, sour, salty food intake;

Dust, smoke exposure worsen the condition and result in chronic cases.
Signs
Chronic cough associated with *Lhung* energy
Strong dry cough
Swelling in the eyes
Swelling in the lips
Gums and tongue become white
Blue veins in the ears

(iii) **Liver Disease** (18 types in adults: 2 types in children (due to *Tri-pa*)

Hot
Signs and Symptoms
Hard to palpate
Fast pulse
Hot urine with hot characteristics
Difficulty in breathing
Cold stomach
Fever
Unable to yawn
Darkened gums
Reddish eyes
Dry nose
Vertical lines on the tongue
Contract limbs
Sharp and loud cry like a goat kid
Veins in the ear black and brown or cold and bluish

Cold: Factors like excessive intake of cold food, thin clothes
Body getting cold with affected liver.
Signs
Slow pulse
Urine with cold characteristics
Thumb sucking

Cold to touch
Scratching the face
Cries in the evening
Bluish yellow skin
Hard liver with distension
General
Eye colour bluish, eye balls protrude, yellow face and limbs
Dull ache, heaviness, shortness of breath,
Feels better in the morning and worsen in the evening, hepatic enlargement, when the stomach is pressed has vomiting or loose motions.

(iv) **Loose Motions**: The cause behind it is indigestion.

Hot
Dysentery: Due to excessive intake of unsuitable rich food
Over activity or vigorous exercise
Loose motions—yellow due to *Tri-pa*
Loose motions—blackish with liver infection
Signs
Shortness of breath
Pulse is strong
Oily face
Hot to touch
Dull mind
Loose motions of varied colour; reddish, yellow, greenish or with blood

Cold
Causes are over eating cold food/milk, exposure to cold
Unable to digest—hence loose motions
Signs
Cries like a 'duck'
Has a sense of relief after the loose motion
Slow pulse
Colour of the motions: white, grey with mucous and bubbly
Rumbling sounds in the lower abdomen

(v) **Vomiting**

Hot (Bad unsuitable food, stale food, unfamiliar food, hot, sour and oily could cause this disorder.)
Signs
Fever
Vomiting blood or bile

Cold
Bad eating, cold food, unhealthy/unfavourable, very raw food.

Signs
Vomiting what is eaten immediately, or with bubbles, with mucus,
Pulse—cold characteristics
Urine—cold characteristics

(vi) **Contagious Diseases**

Seasonal and environmental factors, vigorous activity disturbs the balanced energy of the body, cold and hot disorder are together affected, exposure of the child to contagious disorders also leads to contagious diseases.

Signs
Hot body
Fast pulse
Crying
Perspiration
Body hair moves upward
Thirsty
Dry mouth and nose
Rubbing mouth and nose

(vii) **Navel—Umbilical Disorder**

Frequent and excessive crying,
Keeping in wet clothes soaked in urine
Cutting umbilicus unhygienically, rough clothes rubbing over the navel, etc.

Four types

1. *lTe mKhrang* (Stiff navel)—protruding and swollen

   Unable to stretch the legs
   Cries a lot and often
   Cold pulse/urine
   Navel slightly swollen and has pain

2. *lTe Khor*-Covered with watery serum, swollen, brownish and severe pain and the child cries when touched.
3. *lTe mKhregs*- Navel is brownish colour and hard with dull ache.
4. *lTe rNag*- Mainly because of poor hygiene while cutting the umbilical cord. The navel has pus coming out and the resultant infection could enter inside the skin and cause intestinal hernia.

(viii) **Calculus**

Excessive intake of sweet, heavy food, taken in cold place, resulting in indigestion and eventually in the kidney causes calculus.

General Symptoms

Less urine, painful urination, rubbing face, crying, head trembles, clenches teeth and there is an enlargement of urinary bladder.

There are three types of the conditions depending on where the calculi are located—opening of the bladder, urethra, etc.

2. ***Phra Wai NaD*—Moderately Severe**

This group has eight disorders.

1. Swollen head caused by fall and collection of pus.
2. Obstruction in the throat caused by dirty place, seasonal, infection, not eating properly. Has symptoms of excessive salivation, infection of lung and hoarse voice.
3. Spleen disorder: Heaviness and swollen, mild pain, bluish skin above the spleen, and face, bites mother's breast when pain gets severe.
4. Gall bladder: Heat is increased by exposure to fire. Has signs of black ear lobes, yellowish skin, greyish tongue, blackish and long nail, refuses food when given but shows interest in taking it.
5. Stomach: Weakness, blackish over stomach region, indigestion, irregularity in digestion and consumption of meals.
6. Colon/intestine disorder: Rumbling sound in lower abdomen, bloated abdominal cavity, could shrink in and out of stomach and colon.
7. Mud Eating: Negligence of the mother/nurse could result in mud eating and lead to symptoms of swelling in the stomach, constipation and/or diarrhoea and vomiting.
8. *Sho Ras*: Related to the quality of breast milk. These are related with mother's excessive or bad food intake, and by evil spirits, presence of worrisome strangers, unexpected guest at home, etc., to check for the presence of *Sho Ras.*

When the breast milk added to water, floats, stays in the middle and settles down means that the vitiated breast milk is a result of *Lhung, Tri-pa* and *Bad-Kan* disorder respectively. Evil spirits produce curdled/clotted milk.

3. ***Shib Tsags NaD*—Mild**

There are eight disorders under this section. These are not worrisome and these are due to mixed causes. These could be hereditary or acquired.

1. Eye disorder: of two sub-classification: Present at birth; Acquired at Later period. Symptoms are reddish and hot eye with flow of tear, swelling, sticky and closed eyes.

2. Ear disorders are of two types.
   (a) Present at birth: Pus coming out, and becomes deaf in the later period.
   (b) Infection: Inflammation of ear nerves/capillaries, and difficulty in turning around the neck.
3. Mouth disorder: (a) Present at birth (*Tsa thor*): have symptoms like yellowish pimples in mouth with no pain. (b) Acquired Later (*bSen thor*)—due to dirt and cool place, have symptoms of whitish small pimple over the tongue and mouth, similar to the contagious disorder and has fever.
4. Lymph node disorder: Bent/contracted limbs, unable to stretch and laziness (dullness).
5. Nerve disorder (spinal cord): Early weaning, pallor, gradual degradation or loss of muscles.
6. Worm infestation: Pain, unable to stretch the limbs and crying.
7. Muscle disorder: Thumb sucking and loose motion.
8. Skin eruptions/boils: Swelling of the vessels of buttocks and scrotum due to rough clothes, horse riding, not sleeping, etc. These are symptoms of infection and pus comes out when it is ripe.

Source: Portions of the box text have been derived from Deumar Geshe Tenzin Phuntsok, *Sorig Chaetus Rinchen Phrengw*.

15.1.3 Symptoms: General and Specific

Symptoms of disorders are as follows: Cries all the time and especially more and louder when touched over the pain area, is dull and lazy, finds difficulty in opening eyes, frowns, has little or no appetite, is unhappy and not playful, has a breathing problem, has a low tone, produces rasps from the chest, has sharp, blade-like nails.

In the case of poor prognosis, death is almost sudden and the physician is advised not to continue treatment. These may be: Pale limbs, dry nostrils, hard ears, nose block, eyes look dull, protruding eye balls, cannot close eyes, short and dry tongue, blackish teeth, hard stomach, vomiting, shortness of breath, irritation in throat, loose motions, poor appetite, refusal of feed, fracture of head, yellowish skin, swollen body, liver enlargement.

In case of good prognosis, treatment is effective and the physician should continue the medication: Radiance; intact sense organs, normal breathing, slow pulse beats, red limbs, wants to suckle/feed, nail grows at a normal rate.

15.1.4 Treatments

1. *Diet*

Should be light and easy to digest. When the child is only breastfed the treatment is given to the mother. If the child is on semisolids and breast milk, treatment is to be given to both mother and child. When the child is only on solid food, the treatment is given only to the child.

2. *Lifestyle*

The child should not be allowed to cry for a long time. The child should be protected from cold. The temperature in the surroundings/home should be comfortable to the child.

3. *Medicines*

Pacification: Good potency with gentleness of medicine, which is easily digestible and sweetened with molasses, should be given.

Evacuations: Decoction and laxative medicines that are slightly coarse in nature need to be boiled well to get smoothened and easily digested. This is followed by light rice porridge.

4. *Therapy*

- Venesection: Superficial cutting
- Moxa (Moxabustion): Size of a pea, to induce heat
- Compression: Sprinkling water
- Enema: Light and low dosagePrimary source references

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Nidana–Sthana	V.V. III
Cikitsa–Sthana	V.V. IV
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Deuman Geshe Tenzin Phumstock: Sorig Ehaleus Dinchen Phrengwa. Gyudshi. Sowa Rigpa

Chapter 16
Serious Disorders of Childhood and Treatments

Chapter 73 of the 3rd Tantra of 92 Chapters discusses serious disorders. In Tibetan medicine serious disorders are attributed to evil spirits. This chapter is classified into two main topics, namely the identification of evil spirits called *gDon* in Tibetan, and the treatment of disorders.

In the identification section, there are four main subtopics:

(i) Types
(ii) Symptoms
(iii) Bad Prognosis
(iv) Good Prognosis

(i) **Types**

There are five male, seven female forms and two messengers (vehicles). The main or source of all emanation is the one known as *Lha Chenpo*, which goes back to the Shiva Parvati story—being interrupted while having coitus and cursed from the Hindu epics.

(ii) **Symptoms**

General

Crying all the time, fearful, sleeplessness, frequent yawing, biting lower lips, scratching mother's breast, milk flowing out of mouth, frothy vomiting and eyeballs rolling upwards.

Text from the chapter of the 3rd Tantra is yet to be translated and published.

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Specific
Males

1. *sKem Byed*

   Appears like a black deer. Cannot hold neck straight, lacrimation, hiccoughs, touches the anal region and refuses breast milk.

   Course and Condition

   Ignorance is the root cause of the three mental poisons: Attachment, which leads to Anger, which leads to Delusion, along with karmic imprints

   Temporary conditions: Parents being careless, bad (non-spiritual) parents, unexpected guests and loss of property. Evil spirits can also harm the foetus. They can steal power, spirit/life, etc. They can also affect sensory organs. Children become very fearful.
2. *Sa Ga*
   Sleeplessness, loss of memory, biting of tongue and the mother's breast and the baby has frothy vomiting.
3. *Lug gDon*
   Has sheep's face and appearance of a crow.
   The child is uncomfortable, has breathing problems, abdominal bloating, diarrhoea, vomiting, cough, reddish eyes, touches the cheek repeatedly with hands.
4. *Khyi gDon*
   Has shivering, sweating, closed eyes, noisy breathing, pain in the upper palette, diarrhoea, vomiting and has foul odoured stools.
5. *Yi Dags*—hungry ghost (One amongst the 6 realms of the samsara, namely god, demigod, humans, hell, hungry ghost and animals).
   The child is fearful, anxious, has diarrhoea, vomiting, cough with sputum, yawning and bitter taste in the mouth. There is gradual loss of body weight and muscles.

Females

1. *Bya gDon*

   Has the appearance of a bluish bird. Has fever, diarrhoea, blisters on the tongue and palette and jaw.
2. *Srul Mo*
   Appearance of a black pig.
   Child has diarrhoea, vomiting, hiccoughs and thirst.
3. *Grang bi Srul Mo*
   Appearance of cold, black pig.
   Child has trembling, deviation of the eyes, bloating of the body. The body is cold on one side and hot on the other.
4. *Srul Mo Longwa*
   Has poor vision, puffiness, diarrhoea, vomiting, fever, cough and refuses breast milk.

5. *bShin rG yasma*
   Has shiny radiant face, though initially dull. Has fever and blue veins on the abdomen.
6. *Nam Gru*
   Appearance of yellow dog.
   Child has blue stools, hiccoughs, deviation of the angle of the mouth, fever with bluish skin colour.
7. *Nam Grue s Kempo*
   Appearance of dry yellow dog.
   Child has high fever, loss of hair, low voice and different coloured stools.

Two Messengers are:
The male one being *Gyalpo* causes the child to be fearful, anxious and crying at dawn.

The female one being *bSenmo* causes the child to be dull, has fever and worsening at dusk.

(iii) **Bad Prognosis**

Some evil spirits demand life (spirit/soul). Others are pacified with offerings. The former is difficult to treat while the latter is relatively easy.

Signs of evil spirits being after the life of the child or due to karmic influence.

- Inauspicious time of birth (between 12 midnight and 5 a.m.) or space
- Breach presentation
- Different coloured stools
- Loss of appetite
- Cries all night

(iv) **Good Prognosis**

- Dry mouth
- Tongue touching the lips
- Likes food and drinks—but when given cannot take it
  (This is temporary—as the evil spirits are causing it)

Treatments
Treatments are for the body as well as the negative energies. These may be of two kinds. **Gentle** or **aggressive**.

Gentle Approach
These are of nine kinds:

1–2. Rites and Rituals.
3. Change of place and spreading *til* seeds sanctified by High Lamas around the sleeping area.
4. Bathing with medicated water (neem).
5. Massage with *Dorjee/Vajra* medicinal butter.

6. Tying of *Acorus* special beads, gems, rhino horn on head, neck and wrists respectively.
7. Smoke compression—smoke made with medicinal plants—to be inhaled by the child
8. Medicine—*Dorjee/Vajra* to be fed. This will help in eradicating the evil spirits, enhance bodily strength, complexion and metabolism.
9. Diet and lifestyle: Avoid non-veg food, food made with *Chang* (Tibetan beer), red or uncooked meat. Have the child to take milk, curd, butter and food made with dairy products. Frequent offering of eatable and libations, offering of prayers and rituals. This helps in giving appeasement to those evil spirits who want offering and in turn, the baby's life is saved.

Aggressive Approach

If the above methods fail—Recitation of mantras of fearful nature of God, performing aggressive 'havan' and protective amulets of fearful deity are tied.

There may be many symptoms but in a nutshell are divided into **outer, inner** and **secret**.

Outer

Bad smell, skin discolouration, upper body is big, head is heavy, protruding chest, eyes looking upwards, protruding eyes, bent legs, thin voice—cannot walk properly.

Inner

Without reason at dusk and dawn, the child and parents become tense and anxious. The child has loss of appetite and becomes breathless (Deuma Geshe Tenzin Phuntsok).

Secret (meaning is unclear)

The child breathes with difficulty and the upper back is congested. Child is unhappy and cries, has fluctuating numbness of the limbs, protrusion of the eyes and has mental dullness.

The above symptoms are present when the prognosis is poor. The metaphor given is that it is like a burning lamp without much butter left in it. Even the power of God is limited in such cases.

To sum up, the Paediatric Disorders deal with common (minor) and serious (major) disorders, their causes, treatment and prevention. Serious disorders are attributed to evil spirits.

Deuman Geshe Tenzin Phumstock: Sorig Ehaleus Dinchen Phrengwa. Gyudshi. Sowa Rigpa

The Basic Tantra and The Explanatory Tantra from the Secret Quintessential Instructions on the Eight Branches of the Ambrosia Essence Tantra by Yuthog Yonten Gonpo

Appendix: Some Plant-Based Treatments in Paediatric Practice

(Courtesy: Tenzin Lhundup)

Poekar, shudag, Serje, yungskar, ruta, gugul, Ajag zerjom, seng-khrom, Baleka, Aa wa se, gya sen, tsod, yawakara.

Sl. no.	Herbs' Name in Tibetan	Phonetics	Botanical Names
1.	སྤུ་ལོ་དཀར།	*Poekar*	*Boswellia serrota Roxb*
2.	ཤུ་དག་དཀར་པོ།	*Shudhag*	*Acorus gramineus soland*
3.	གསེར་རྡོ།	*Serje*	*Vemiculitum*
4.	ཡུང་དཀར།	*Yungkar*	*Brassica alba* (*L.*) *Boiss*
5.	རུ་ཏ།	*Ruta*	*Saussurea lappa*
6.	གུ་གུ་ལ།	*Gugul*	*Styrax benzoin Dryand*
7.	ཨ་བྱ་གཅེ་རྩོམ།	*A jak Zerjom*	*Chrysanthemum tatsienense*
8.	སེང་ཁྲོམ་སམས་ཁུ་མཚན	*Sengtrom*	*Symplocos paniculata*
9.	བ་ལེ་ཀ།	*ba le ka*	*Aristolochia moupinensis*
10.	ཨའུ་རྩྭ།	*Awa se*	*Fritillaria cirrhosa*
11.	རྒྱ་སེན།	*Gya sen*	*Vicia faba L.*
12.	བཙོད།	*tsod*	*Rubia cordifolia. L.*
13.	ཡ་བཁ་ར།	*Ya wa khara*	*Mirabititum*

Part V
Gleanings from a Developmental Perspective

Chapter 17
Gleanings from Ayurveda

In this section, the author departs from the earlier practice of keeping the narratives of the four archaic systems occurred idiosyncratic as these occurred in the original texts. In Ayurveda, for example, there are large numbers of translations as well as numerous commentaries. But it needs to be noted that in the general reading of scholarly articles of Ayurveda, hardly any mention is made of the *Kashyapa Samhita*, the sole Ayurvedic text, though Kashyapa is mentioned in the *Charaka Samhita*. This neglect is evident with the exception of the chapter by P.V. Tewari (2002) in IHPC series edited by Subbarayappa (2001). This seems to suggest that paediatrics or *Kaumarabhritya* is a much overlooked subject among the scholars despite the abundance of literature on the subject.

17.1 Care of Newborn Children

Some of the instructions described earlier are worth noting, especially in comparison with current paediatric practices. The time of conception and the period of pregnancy are of paramount importance to the birth of a healthy baby. Cleaning the newborn is more or less similar to what is currently practised. The fact that going through the birth process might tire the newborn is acknowledged. Stimulation of auditory channels is done by making sounds close to the ears. Cutting of the umbilical cord is carried out in as clean a manner as possible and tying is done to prevent blood loss. Cleaning of the oral cavity is carried out using clean fingers. Removal of amniotic fluid is carried out by inducing vomiting but in the current paediatric practice deep suction is done through the orogastric tube. Chanting of verses may be soothing to the mother and the infant at this critical period. It is to be noted that the chanting is addressed to the baby boy by the father while no mention is made of such a ritual for the girl child. It must be noted that gold and mercury are used for alchemy but mercury products are not used with children.

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The three *dosha*s form the core of Ayurvedic practices. Even the water for bath is medicated according to *vata*, *pitta* and *kapha* in the child's constitution. A good deal of care is given to the baby's first and subsequent feeds. Feeding of gold powder along with other ingredients is supposed to promote physical growth and development of the baby, along with intelligence, speech and memory. Use of powdered gold is a part of Ayurvedic practice even in adults. It is claimed that children with disabilities, impaired hearing, speech and orthopaedic problems too would benefit by these prescriptions. These need to be scientifically examined. Use of butter, ghee and honey with other preparations are advised in Ayurvedic practices, while in the modern paediatric practice these are known to cause allergies and thus can be potentially harmful. The insistence on breast milk at least till the baby is six months of age is in accordance with the current paediatric practice.

Even in modern times there are many theories and beliefs that the mother's diet affects the quality of breast milk. Most evidence is anecdotal, however, it is true that most drugs pass in small amounts into the milk and therefore should be used with caution.

It is noteworthy that the idea that the psychological and physical well-being of the nursing mother/wet nurse influences the quality of breast milk and results in good health of the infant, is promoted. Some of the recommendations for the enhancement of breast milk could be put to test. The Ayurvedic texts also caution regarding the kind of diet or drug prescribed to the nursing mother, as they believe that the infant would receive the same through the breast milk. Emphasis is placed on right diet and stress-free lifestyle for the mother. It is recommended that she should have a cheerful disposition.

The physical and psychological care of the infants as listed appears to be based on common sense. However, in addition to real physical dangers, some threats are believed to be invisible, harmful and life endangering to the infant. This was but natural in olden days in the absence of the knowledge of microorganisms as causes of illnesses.

The importance of play in the child's life is highlighted. Safe toys and safe play areas are advocated. Toys appropriate to the age of the child are recommended. These range from colourful toys above the cradle to safe toys made of wood or soft materials. Especially interesting is that in the instruction the children should be made to play in the sterilised area under a neem tree.

There are detailed descriptions of teething. The current knowledge is that there is no difference in kinds of teeth between boys and girls. The age at which different types of teeth erupt is fairly accurate. The types of teeth and the dental problems which are likely to occur in each of the types need to be put to test. But some of the practices regarding infants born with teeth seem to be entirely based on superstitions. For example, such a child should be gifted away as harm may befall on the family. There was a tendency to view anything which did not conform to the norms as potentially harmful to the child or the family.

In the Ayurvedic texts it is recommended that babies should be lightly massaged with oil and given bath with medicated water. Across India, this is considered very essential in the traditional practice of bathing the infant. This continues

Fig. 17.1 Abhyajana. *Source* Kshama Rau

to be practised in the traditional societies even today. It provides sensory motor stimulation not only for children at risk but also for normal children. It is known as *abhyajana* (see Fig. 17.1).

Rites of Passage or *Samskara*s

There are not many studies on child rearing in India. Margaret Stevenson in 1920 studied rites and customs involved in the birth of the first child in Gujarat. Kamalabai Deshpande in 1936 reported on the rites involving children based on *grahasastra*s. The first monograph based on ethnopsychology was written by Minturn and Hitchcock in 1966. In the south, Mencher (1963) described growing up in South Malabar. Stork (1986) in her ethnographic study of the infant–mother interaction, used methods of observation and visual documentation of bathing, feeding and other child rearing practices in Tamil Nadu. Sinha in 1981 highlighted some aspects of socialization of the Indian child. Kane (1941) gives detailed description of the 16 *Samskaras* including the 10 of childhood.

The three *samskaras* before birth and the seven *samskaras* after birth indicate that the developmental context was highly appreciated in the ancient system of childcare. The scholarly compilation of the nine *samskaras* of childhood (excluding *Karnavedhana*—piercing of ears) by Kamala Bai Deshpande is an extraordinary doctoral research conducted in a European university by an Indian woman in 1931. In this book the *samskaras* are based on the 14 *grahasutras* and are teased out into separate strands consisting of the steps involved such as religious, main and supplementary rites. In her commentary on *pumsavana*, she notes that though the prayers are exclusively for the birth of a learned son, there are prayers which are meant for birth

of a learned daughter too, though there is no special rite such as *pumsavana* carried out for the birth of a female offspring. However, *jatakarma*, the role of the father in chanting verses, in feeding the newborn with ghee, honey and gold, and in putting the infant on the mother's breast for the first feed are described. Thus, the father has a significant role to play at the birth of his son. Deshpande also highlights the significance of *namakarana* (naming) to which relatives and neighbours are invited as a social event. The oblations are offered to deities like Agni or Prajapati for the boys and to *aryama* for the girls. The *samskara* of *namakarana* consists of a religious rite of sacrifice (*homa*), naming and tying of gold around the wrist (main rite); touching and smelling the child (*abhimasava* and *avagrahana*), which are the minor rites. The *samskara* of *parikramana* or taking the infants outdoors to view the sun or the moon at the third or fourth month is to be carried out together by the mother and the father, and has the components of *homa*, viewing the sun or moon and offering prayers.

In *annaprashana*, flesh of different kinds of birds, whose characteristics the infant is expected to acquire, are fed to the infant in small quantities. The Ayurvedic texts mostly give specific instructions with caution about easy digestibility of the food and gradual increase in terms of textures and flavours. This *samskara* consists of religious rite of *homa*, main rite of feeding of cereals and minor rite of *upaveshana* (sitting) and feeding of ghee (*ghritaprashana*).

Chudakarana or tonsure, may be carried out in the first or third year for Brahmin, fifth year for Kshatriya, and sixth year for Vaishya boys. The tonsure is first carried out on the right side of the head and involves seven stages, along with recital of verses. The first snipping of the hair is to be carried out by the father or someone in his place and the rest by the barber. The religious rites of *homa*, main rite of tonsure and the minor rite of bath are carried out. The shorn hair is to be ritually buried by someone else close to the child. The cut hair and nails are believed to be favourite artefacts of evil spirits, hence the need to hide them. Locks of hair are to be arranged differently for each clan, or *gotra*. For Vashista, the portions to be tonsured and the locks of hair on one side, Atri and Kashyapa on both sides, Bhrighu, total tonsure and Angirasa, to have only five locks. After this ceremony the child is considered a full member of the family. *Upanayana* (sacred thread ceremony) is the most important of the *samskaras* of the childhood. It is an initiation rite when a boy becomes a full member of the community and begins his life as a pupil. In the olden days the boy was initiated (*upanayana* literally means "lead to") by the teacher with whom he stays as a student or an apprentice for several years. The rite is the beginning of the second developmental phase in the Hindu system of life cycles and is called *brahmacharya*. The rite of *upanayana* is considered as the second birth. The recommended age ranges from 7 to 15 years and does not exceed 16 years. The age of initiation varies according to the caste, being earliest for Brahmins. The religious rites consist of sacrifice (*homa*). The three preliminary rites are: filling of water in cupped hands of the boy (*anjalipurana*), standing on the stone representing steadfastness (*asmarohana*) and sipping of curds (*dadhiprashana*). The three main rites are: taking the boy by his hand towards self by the teacher (*hastagrahana* or *upanayana*), his acceptance of as a pupil (*svikarana*) and giving over the pupil to the deities (*paridana*). The three minor

rites are: asking the name (*namapracha*), showing the sun (*adityadarshana*) and going round the fire (*agnipradakshina*). There are *vrata* rites or teachings of the precepts of student life (*brahmacharya upadesa*), instruction in the recitation of *Savitri* (or *Gayatri*) mantra and putting the firewood on the sacred fire (*samidhana*).

Deshpande's account reveals that the life of a pupil starts only after the age of seven. Before that he is permitted to remain a child without the responsibility of his family and caste requirements. For the castes other than Brahmins it is even later. From a contemporary context, this falls in the third stage of cognitive development of the Piagetian theoretical model, i.e. that of concrete operations (Piaget 1967). This is a developmentally critical stage for learning of lessons or skills. The *samskaras* are silent about teaching scholarly ways to the girls apart from rituals for celebrating attaining of menarche.

It is to be noted that exclusion of the ritual of piercing ears for boys and girls (*Karnavedhana*) from the *grahasutras* and inclusion in the Ayurvedic texts perhaps is of some significance. The detailed account of ear piercing reveals the meticulous care taken to see that infections or unwanted complications do not occur if the process is carried out by the physician. Thus the purpose apparently is not decorative and must have had some medical significance. Perhaps this is one of the questions which need to be researched upon. Does this practice bear some semblance to the ancient Chinese practice of acupuncture? The fact remains that children of both gender and all castes till the present century have this ritual as a common practice.

Optimal care of the infant begins from the time of conception. Prescription of right diets, behaviour and drug regime to the mother-to-be is exhaustive. In addition, the father too has to follow similar regimen at critical periods. Importance of heredity is highlighted but the nature and nurture interaction is equally important. Transmission of acquired characteristics from the time of conception is viewed as the result of interaction between heredity and environment. However, *pumsavana* as a ritual conducted to get the baby of desired sex (mostly male) is medically untenable, as it is held at three months or beyond during pregnancy.

The diet advised for *annaprashana*, perhaps predates Buddhist and Brahminal vegetarianism. It is a matter of interest for historians, sociologists and anthropologists to explore the beginning of vegetarianism.

Pregnancy is considered to be a very crucial phase in a woman's life and dire warnings and prohibitions probably aim at providing optimal care to the expectant and nursing mother by herself and by others.

Gender inequality is obvious in the several texts and continues to remain so even today in India. However, the special status and the care of the expectant and nursing mother is a silver lining, in an otherwise unequal balance of power. The traditional practices provide very strong support to woman in this special stage of life cycle—leading to promotion of health of the infant.

Promoting physical and psychosocial development of the infant, through healthy mother child interaction, especially around breast feeding was strongly advocated in the olden days. It can be seen that the approach to childcare was developmental and holistic in the promotion of physical growth and psychosocial development.

The purpose of various rituals and *samskaras* are described differently by the various ancient scholars. But the most agreed upon purposes are: the removal of tainted inherited predispositions and generation of fresh qualities of fitness. Thus, the concept of *samskaras* represents the equilibrium brought about by the contributions of heredity and environment.

To conclude, the examination of ancient childcare system reveals that a great deal of attention was paid to the care of the infants and children. Many of these recommendations are appropriate even in the contemporary society.

17.2 Physical Features of the Child and Predictions

While the aim of science is to predict, the early scholars like Kashyapa have emphasised prediction based on body structure of the child in the absence of any proof. The prediction was holistic including physical and psychological characteristics. It is somewhat similar to the study of physiognomy or phrenology in the western world. Numerology, palmistry and astrology, have much less to base the data on, compared to the ancient scholars who based their predictions on their observation of human anatomy. From developmental and clinical perspectives, it is noteworthy that such a detailed physical examination was carried out shortly after birth. However, the predictions do not have a scientific basis. However, a good deal of predictions are based on dreams of the physician, mother or the child. These need to be explored further (Kapur 2013a).

17.3 Disorders of the Newborn

Description of the symptoms of asphyxiation (quite similar to *Apgar* ratings) and aspiration pneumonia are remarkably accurate. The treatment is different in the current paediatric practice. Many cultures blame illness/problems with the child on mother's milk. In general, unless mother's diet is extremely limited, the milk supply is unlikely to be affected. While certain foods may affect flavour and even colour of the milk, there is no medical evidence that of the many disorders in the child can be blamed as due to the mother's milk. Similarly, psychological factors such as maternal stress may affect the volume of milk but not the quality.

Importance of breast milk has been dealt extensively in ancient childcare literature. Protective nature of breast milk in high-risk infants with family history of allergies such as eczema and asthma has been highlighted in a five-year follow-up study (Chandra 1997).

Kapur et al. (1997) studied the temperamental predispositions based on the *triguna* model of *rajas*, *tamas* and *satvik* temperament. In this study of normal and disturbed young children, it was revealed that the normal children were predominantly *satvik* while disturbed children had predominantly *tamasik* and *rajasik* temperaments. This leads support to the above contention that *rajas* and *tamas* are

temperamental predispositions for psychological disturbance. In the ancient texts it is suggested that these could be modified by correct diet, drugs and lifestyles and other appropriate treatments, as these are due to vitiation of the three *dosha*s. While the *guna*s are psychological counter parts of the *dosha*s, only the *rajas* and *tamas* are considered as *dosha*s. Thus, *sattvik* temperament indicates psychological well-being. The ancient thought on cultivation of *satvik* temperament thus aims at promotion of mental health. This indeed is of contemporary relevance (Kapur 2013b).

The speculations regarding breast milk affected by *vata*, *pitta* or *kapha* and their effect on the infant need to be put to test. Effect of right diet, appropriate drugs taken by the mother and recommended lifestyle too could be examined.

It is noteworthy that the relationship between the infant and mother is not only seen as a symbiotic one but also viewed as an interaction between the physical and psychological *dosha*s between the two. This assumption permits the physician to bring about positive changes in the nursing mother and resultant good health in the baby.

17.4 Common Childhood Disorders

The most important aspect of the chapter is the emphasis on observational methods by the clinicians of ancient India. Variations in crying, facial expressions, body movements and their relationship to the illnesses are documented clearly. This way of documentation could indeed be used to complement the clinical examination.

While some of the disorders such as *Talukantakam* (disorder of the palate) do not find a place, most syndromes fall in line with current classificatory systems in paediatrics and child psychiatry. However, the disorders in child psychiatry are fewer in the Ayurvedic texts. These are: headache (due to emotional reasons), confusional states due to nutritional deficiency, teeth grinding, bed wetting, pica and acute psychotic states and accidental ingestion of drugs or alcohol. *Balakshaya* may be the syndrome of Failure to Thrive or tuberculosis. It may, however, be noted that many of the childhood mental health problems such as over activity, psychoses, mental retardation and sensory motor handicaps and disabilities are described but as being caused by physical and psychological improprieties of the expectant mother. There is confusion with reference to *apasmara* (hysteria or epilepsy) as a functional (neurotic) or a neurological disorder. Not surprisingly the same confusion exists in the contemporary differential diagnosis between dissociative/conversion disorders and epilepsy.

Aetiogical speculations rest on the influence of *dosha*s, infections, malnutrition and on the psychological and physical disturbances in the nursing mother. These need to be scientifically tested.

Prognosis often rests not only on the nature and severity of the illness, but also on the auspiciousness or inauspiciousness of the time of birth, influence of *grahas*, rituals to counter them and even the content of dreams of the nursing mother (Kapur 2013a). This appears to suggest that the aetiology and prognosis were understood from multiple perspectives, ranging from medical, religious, social, and based on dream symbolism and imagination.

Multiple aetiological formulations are commonly offered. Overlapping of symptoms in the different syndromes are taken note of, indicating keen awareness of the phenomenology of the disorders in both physical and psychological domains.

17.5 Serious Disorders of Childhood (*Balagraha*)

The *grahas* are invisible forces which affect the child and are considered as causing illnesses of unknown aetiology. These *grahas* are not the same as *grahas* or planets or zodiac signs of conventional use. The ancient scholars and lay people alike preferred to attribute the causes of serious illnesses to demonic forces of different kinds.

Psychological disturbances such as fear, irritability, sadness, crying and confusion are described as part of the single *graha* affliction. A more absurdly detailed categorisation is applied in the *Vishnupurana*, where 38 different *grahas* seize the child across days, months and years! This is definitely suggestive of a developmental approach to psychological and physical disturbances in childhood.

Based on the demands of the *grahas* upon possessing the child, three kinds of syndromes are described as the effect of multiple *graha* invasions. It is noteworthy that the first description may fit into the syndrome schizophrenia, the second into affective disorder (mania) and the third is affective disorder (depression). The prognostication indicates the first as impossible to treat and the other two as treatable. Psychotic disorders do occur, though less frequently in prepubertal and pubertal children, and are identical to adult forms, as described under the present-day psychiatric classificatory systems.

Epilepsy and psychological sequel of various physical disorders are described as due to influence of the twelve *grahas*.

The taxonomy of the disorders, though not in line with the contemporary systems, the descriptions given in aphorisms, merit attention in view of the detailed descriptions of serious disorders.

Graharogas (diseases caused by *grahas*) are the most serious of childhood disorders and are of varied aetiology and are caused by invisible forces. These forces are naturally viewed as malevolent and attributed to demons, in the absence of knowledge of microorganisms.

The syndromes which overlap have been seen along the following parameters to help the clinician in his diagnosis:

(a) Physical symptoms of various disorders
(b) Psychological symptoms—confusion, perplexity and sadness
(c) Anticipated poor or good response to treatment
(d) Behavioural manifestation such as incessant crying and refusal of food, grimaces and touching the affected body parts, etc.
(e) Descriptions of smells such as those of goat, urine, faeces, ‘death’, which are usually not used in contemporary paediatric diagnosis.

The syndromes of *graharogas* need to be carefully examined and the similarity and differences with contemporary paediatric disorders are to be studied. How many of them lend themselves to aetiological diagnosis in the twenty-first century is an interesting question (for example, psychoses and idiopathic epilepsies).

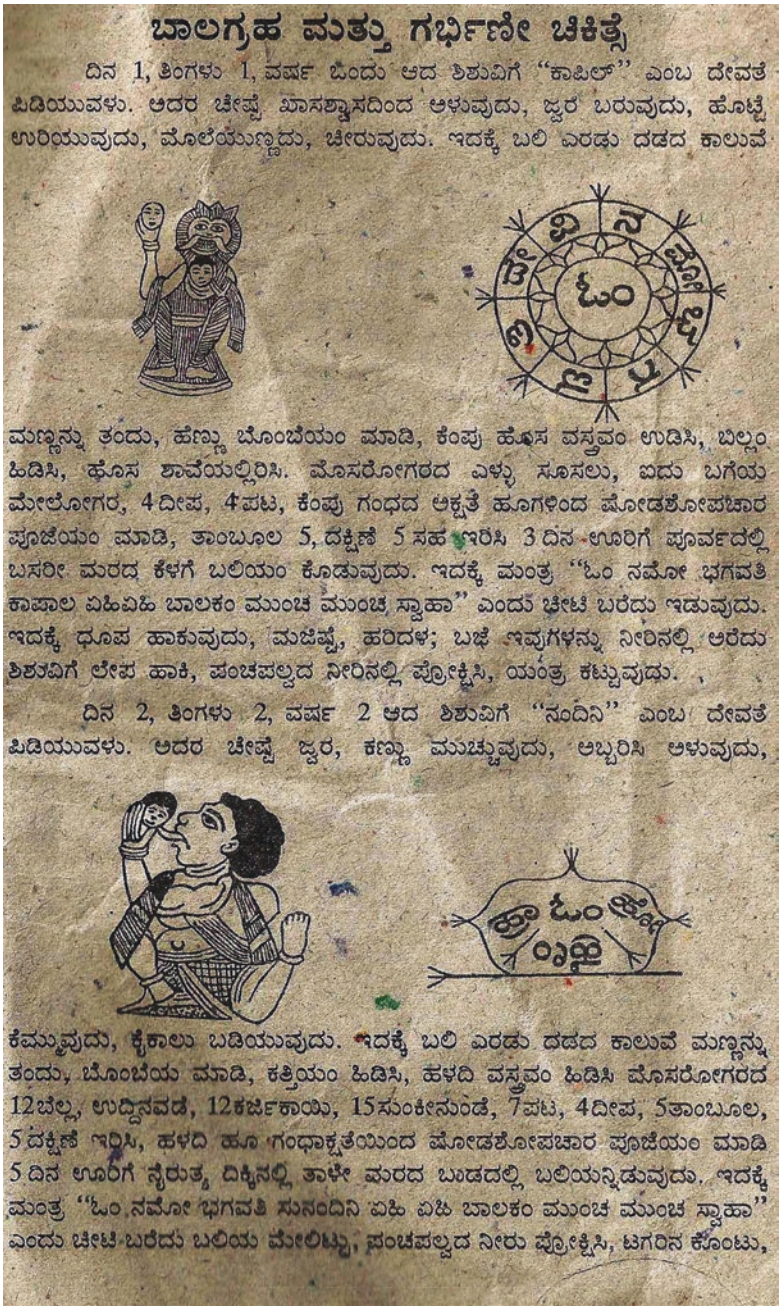
17.6 The Origins

The origin of Ayurveda is embedded in the mythological figures. In the myths, numerous gods and demons are mentioned. These gods and other deities find a mention in the '*samskara*' as these are linked to religious rituals. Apart from it the evil spirits or demons are linked to *balagraha*/*graharoga* or serious disorders of childhood both as responsible for causing the disorders. They need to be pacified with rituals of pacification. There are also warding off rituals for spirits that affect the infants adversely (evil eye concept). The names of the *grahas* are found in the *puranas* and the epics. While *Kaumarabhritya* was practised by elitist ancient physicians, at the same time some of the practices were based on folk healing practices defined by local geography and culture. However, the *balagraha* treatments were available to common folk and local healers. Figure 17.2 shows a page from a booklet in Kannada that gives instructions on how to treat the *graha* seizure through rituals. These are sold often in village markets in the local languages. The instructions are very detailed regarding the rituals. In fact, even the *mantra* to be recited while casting the spell is given along with instructions how to make voodoo dolls!

It may be seen the developmental perspective is embedded in the Ayurvedic paediatric care and understanding of the minor and major disorders. It is most important to note that this approach starts at the point of conception through foetal developmental to infancy and childhood.

Child development, illness and the treatments are viewed from developmental perspective, taking into account:

(a) Psychological contexts of dealing with the mother and the infant (even the foetus) as a symbiotic unit.
(b) Socio-cultural contexts in terms of the *samskara*s.
(c) Age trends delineated clearly in terms of feeding, bathing and drug dosages.
(d) Interaction between body and mind is never lost sight of.
(e) Developmental continuities and discontinuities are focused upon mostly in the treatment practices to promote memory, intelligence, physical ability as well as in terms of prognosis based on physical features of the infant.
(f) Gender discrimination seems to be a part and parcel of the numerous cultural practices. However, extraordinary status given to the mother-to-be and nursing mother form the core of very advanced healthcare provided to infants—way ahead of times.
(g) Importance of days (nights), weeks, months, seasons and years are not lost sight of in connection with the following:



ಬಾಲಗ್ರಹ ಮತ್ತು ಗರ್ಭಿಣೀ ಚಿಕಿತ್ಸೆ

ದಿನ 1, ತಿಂಗಳು 1, ವರ್ಷ ಒಂದು ಆದ ಶಿಶುವಿಗೆ "ಕಾಪಿಲ್" ಎಂಬ ದೇವತೆ ಪಿಡಿಯುವಳು. ಅದರ ಚೇಷ್ಟೆ ಖಾಸಶ್ವಾಸದಿಂದ ಅಳುವುದು, ಜ್ವರ ಬರುವುದು, ಹೊಟ್ಟೆ ಉರಿಯುವುದು, ಮೊಲೆಯುಣ್ಣದು, ಚೀರುವುದು. ಇದಕ್ಕೆ ಬಲಿ ಎರಡು ದಡದ ಕಾಲುವೆ

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ಮಣ್ಣನ್ನು ತಂದು, ಹೆಣ್ಣು ಬೊಂಬೆಯಂ ಮಾಡಿ, ಕೆಂಪು ಹೊಸ ವಸ್ತ್ರವಂ ಉಡಿಸಿ, ಬಿಲ್ಲಂ ಹಿಡಿಸಿ, ಹೊಸ ಶಾವೆಯಲ್ಲಿರಿಸಿ. ಮೊಸರೋಗರದ ಎಳ್ಳು ಸೂಸಲು, ಐದು ಬಗೆಯ ಮೇಲೋಗರ, 4 ದೀಪ, 4 ಪಟ, ಕೆಂಪು ಗಂಧದ ಅಕ್ಷತೆ ಹೂಗಳಿಂದ ಷೋಡಶೋಪಚಾರ ಪೂಜೆಯಂ ಮಾಡಿ, ತಾಂಬೂಲ 5, ದಕ್ಷಿಣೆ 5 ಸಹ ಇರಿಸಿ 3 ದಿನ ಊರಿಗೆ ಪೂರ್ವದಲ್ಲಿ ಬಸರೀ ಮರದ ಕೆಳಗೆ ಬಲಿಯಂ ಕೊಡುವುದು. ಇದಕ್ಕೆ ಮಂತ್ರ "ಓಂ ನಮೋ ಭಗವತಿ ಕಾಪಾಲ ಏಹಿಏಹಿ ಬಾಲಕಂ ಮುಂಚ ಮುಂಚ ಸ್ವಾಹಾ" ಎಂದು ಚೀಟಿ ಬರೆದು ಇಡುವುದು. ಇದಕ್ಕೆ ಧೂಪ ಹಾಕುವುದು, ಮಜಿಷ್ಟೆ, ಹರಿದಳ; ಬಜೆ ಇವುಗಳನ್ನು ನೀರಿನಲ್ಲಿ ಅರೆದು ಶಿಶುವಿಗೆ ಲೇಪ ಹಾಕಿ, ಪಂಚಪಲ್ಲವ ನೀರಿನಲ್ಲಿ ಪ್ರೋಕ್ಷಿಸಿ, ಯಂತ್ರ ಕಟ್ಟುವುದು.

ದಿನ 2, ತಿಂಗಳು 2, ವರ್ಷ 2 ಆದ ಶಿಶುವಿಗೆ "ನಂದಿನಿ" ಎಂಬ ದೇವತೆ ಪಿಡಿಯುವಳು. ಅದರ ಚೇಷ್ಟೆ ಜ್ವರ, ಕಣ್ಣು ಮುಚ್ಚುವುದು, ಅಬ್ಬರಿಸಿ ಅಳುವುದು,

ಕ್ರೂ ಓಂ

ಕೆಮ್ಮುವುದು, ಕೈಕಾಲು ಬಡಿಯುವುದು. ಇದಕ್ಕೆ ಬಲಿ ಎರಡು ದಡದ ಕಾಲುವೆ ಮಣ್ಣನ್ನು ತಂದು, ಬೊಂಬೆಯ ಮಾಡಿ, ಕತ್ತಿಯಂ ಹಿಡಿಸಿ, ಹಳದಿ ವಸ್ತ್ರವಂ ಹಿಡಿಸಿ ಮೊಸರೋಗರದ 12 ಬೆಲ್ಲ, ಉದ್ದಿನವಡೆ, 12 ಕರ್ಜಕಾಯಿ, 15 ಸುಂಕೀನುಂಡೆ, 7 ಪಟ, 4 ದೀಪ, 5 ತಾಂಬೂಲ, 5 ದಕ್ಷಿಣೆ ಇರಿಸಿ, ಹಳದಿ ಹೂ ಗಂಧಾಕ್ಷತೆಯಿಂದ ಷೋಡಶೋಪಚಾರ ಪೂಜೆಯಂ ಮಾಡಿ 5 ದಿನ ಊರಿಗೆ ನೈರುತ್ಯ ದಿಕ್ಕಿನಲ್ಲಿ ತಾಳೇ ಮರದ ಬುಡದಲ್ಲಿ ಬಲಿಯನ್ನಿಡುವುದು. ಇದಕ್ಕೆ ಮಂತ್ರ "ಓಂ ನಮೋ ಭಗವತಿ ಸುನಂದಿನಿ ಏಹಿ ಏಹಿ ಬಾಲಕಂ ಮುಂಚ ಮುಂಚ ಸ್ವಾಹಾ" ಎಂದು ಚೀಟಿ ಬರೆದು ಬಲಿಯ ಮೇಲಿಟ್ಟು, ಪಂಚಪಲ್ಲವ ನೀರು ಪ್ರೋಕ್ಷಿಸಿ, ಟಗರಿನ ಕೊಂಟು,

Fig. 17.2 Excerpt from a Kannada booklet on treatment of *Graha* seizure through rituals

- Developmental phases from infancy to old age and prescription of diets, etc.
- Diet, medication, baths are calibrated to suit the age of the infant by the days.
- Especially of importance are the evil spirits who seize the infant/child on specific by the days, weeks and months.
- The *samskaras* are the classic examples of rituals associated with critical developmental phases.

It may be concluded that in the Ayurveda system the developmental approach is inextricably interwoven.

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Chapter 18
Gleanings from Unani Medicine

Unani is distinct from the other systems as it developed out of the Greek system of medicine, merged with Persian and Arabic systems of the time. Much later, after its arrival in India it picked up the healing practices of Ayurveda. Despite common misperceptions, it is not an Islamic healing tradition. It has no religious tenets to be followed in theory or practice owing to its Greek pre-Islamic origin. In India too, the early Hakims were not Muslims. Of course, the knowledge of Urdu or Arabic is essential. In all the northern states of India where Urdu/Arabic studies were common, study of Unani was dependent on knowledge of language rather than on the practice of religion. However, there are occasional references to the Prophet's teaching in some of the texts. While traditional Islamic rituals were followed by Muslims, the Unani physician and non-Muslim patients were untouched by it. This pragmatic empiricism becomes obvious when one understands the health theories and practices of Unani.

18.1 Developmental Approach

Care of the newborn includes the care of the umbilical cord, swaddling, cleaning of eyes, skin, bathing, sleeping, etc.

In the care of the nursing mother, more importance is given to the production of breast milk and quality of breast milk. Physical and psychological characteristics of the wet nurse are highlighted. This is somewhat similar to *Kashyapa Samhita* (K.S.) where once again the wet nurse instead of the nursing mother finds a greater volume of description. Is it the reflection of commonplace practice or is it the description of upper class/royal ladies who delegate their childcare role to another woman? Was it a reflection of social class and not commonly practised? If it was commonly practised probably it was due to maternal mortality or sickness.

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But there is an emphasis on good diet for the nursing mother or the wet nurse. There are well-known remedies for enhancing breast milk. Breast milk is recommended till the age of two in the Unani system.

It is interesting to note that the main theory and practice of the Unani system remains close to its roots, the paediatric practice has grown out of the Middle Eastern childcare practices. There are several physicians starting from Galen (Jalinoos 129–200 AD) who gave the guidelines for promoting the proper growth and development of children.

The first regimen for a newborn was salt sprinkled on the body, of pure variety as recommended by Ibn Rushd (1126–1198 AD). This practice is not unique to the Middle Eastern region. It is also mentioned in the *Kashyapa Samhita* that *saindhava* salt with ghee should be used on the body of the newborn. The salt sprinkling is to be followed by *hamaam* or bath immersed in a tub. Healing properties of salt are well known but its use in the care of the newborn and subsequently too, as followed by both systems is interesting. Rabban Tabri (700–850 AD) in *Firdansul Hikmat* gives guidelines for the growth and development of children. Graded exposure to light exercises and gradual increase in light diet is recommended.

Children are prohibited from intake of liquor as it makes body *martoob* (moist) and fills the brain with *bukhaarat* (vapours/temperature). They may be allowed light wrestling and should walk on bare feet to the wrestling area. Children should be given hot baths.

Zakaria Raz (850–923 AD) in *Kitabul Mansoori* has barred children from eating excessive fruit, sweets, cheese, milk and other heady foods. He had suggested such excessive intake may cause vesicle calculus.

In his book *Kamil-us-Sanaah*, Ali Abn Abbas Majoosi (930–994 AD) has a set of regimen when the child crosses the stage of being breastfed. The child needs to be given bath in lukewarm water. Too frequent feedings and intake of sweets, eggs and heavy foods are prohibited as these cause indigestion and calculus formation in the kidney and the bladder.

Ibn Sina (980–1037) in his *Al-Qanun Fial Tibb* elaborated in four chapters, about newborns, till they start walking, about breastfeeding and about the quality of a good wet nurse. In addition, he also discussed the education of children in detail.

Ibn Hubal Baghdadi (1122–1213) in his *Kitabul Mokhtarat Fil Tibb* gave further guidelines highlighting the need for light, nutritive food and mild exercise to be gradually increased according to age. He had suggested massage and bath to be given before feeding. The children should be allowed mild exercises. They should be brought up with good habits. Ibn Rushd (1126–1198 AD) suggested that the infant should be given bath on empty stomach before breastfeeding to prevent the undigested milk to affect the *aasaab* (nerves). When the child wakes up in the morning he should be given mild exercise followed by massage and bath. Heavy exercise causes dryness of body and dryness retards growth. Hot bath is preferred as cold bath causes retardation. Intake of *nabeez* (alcoholic beverage) and hypnotic substances is prohibited as it produces congestion in the head or brain—raises body temperature and produces disturbance in thinking. During epidemics all fruits are prohibited as children can easily catch infections.

The above instructions to promote normal growth and development suggest that much attention was given to child in these desert lands. It is in stark contrast to how weak children were left outdoor to die in ancient Greece. There was also the Western mediaeval notion of toughening up the children as if they are miniature adults!

Developmental phases and appropriate regimes for time, quality and quantity of feeding are emphasised. It is interesting to note that in the countries with tradition of rich food, special mention is made of light and nutritive food. Important instruction is that there should be gradual increase in quantity of food and the quality should be good. Massage and bath are seen as daily routine for an infant and later on in childhood. Mild exercises or activities are considered essential. Gradual increase in light and nutritious food is something even current-day mothers pay heed to. Effect of massage, exercise and bath followed by light diet need to be incorporated in preferred practices.

The instruction that liquor be prohibited is a curious one. Was there a practice of giving liquor to young children, similar to the Indian tradition of feeding children opium to keep them quiet—which was prevalent even in the past century?

Ibn Sina was concerned about normal child development apart from treating illnesses. He was interested in the child's sensory, motor, emotional developmental and moral training. He was interested in games at this age as well as primary education. He believed that after the age of 4 years the child should be free to play and the quantity of diet should be increased. The temperament of the child needs to be observed. His wishes should be fulfilled and annoyances should be eliminated. Thus, balanced behaviour conducive to physical and mental health should be encouraged. It may be noted that the focus here is not on the humours but on the actual domains of development such as sensory, motor, cognitive, emotional and moral development. Moral development perhaps could be seen as part of social development. Thus all domains of development except language development are subsumed under the parameters of bio-psycho-social development. It is a remarkable insight over 1000 years ago! It is recommended that the child should be sent to a teacher at the age of 6 years but he should not be burdened with all the books at once. These should be increased progressively. This regimen should be continued till 14. All regimens should promote overall development of children. It is to be noted that 6 years is considered the ideal time to start academic pursuits—unlike the current-day education system in India.

Treatment of disorders in the Unani system has the following features. The text is adopted from *Al-Qanun Fial Tibb.*

Treatment of infants consists of the treatment of the nursing mother/wet nurse. The presence of any excessive humour(s) and the elimination of the same brings back the balance of humours in the mother is needed. The symptoms of the infant are dealt with the treatment of the mother. If the mother has diarrhoea or vomiting or needs any treatment, the infant should be nursed by a surrogate. This is an often overlooked issue in the modern paediatric practice. It is only in the recent decades that this has received some attention through problems such as foetal alcohol syndromes. But treatment is always given to the infant and not indirectly through the breastfeeding mother. Perhaps this indirect route of drug administration to the infant needs to be given some consideration and empirical testing.

Management of teething problems, gum problems through massage and some medication is given. These common measures need to be noted. The association of diarrhoea with teething is observed. Mild diarrhoea does not need treatment. Constipation too has some more remedies. Convulsions and rigidity are commonly seen in childhood and treatments are described. Whether the disorder is 'dry' type or not determines the treatment. Cough, cold, ear, eye and throat problems are treated with various methods described earlier. Most of the disorders described are common in childhood. The range of treatments consists of herbal, animal products, baths, massage, emission, enema and so on. These are basically mild treatments. However, they need to be empirically examined. It must be noted that most of these are not over-the-counter drugs but individually recommended home remedies. This would perhaps be best suited across the developing nations where health care is scarce. This also raises the question if in the olden days child healthcare was home based unlike adults who went to Hakims for consultations much more frequently.

18.2 Origins of Unani Medicine

There are speculations that the Unani system originated in Greece. But it may not entirely of Greek origin as it may have been strongly influenced by Mesopotamian and Egyptian lands. The two-way evolution according to Wadub (2012) has been attributed to an approach in which two different cultures have influenced it. The two influences are: the structuralist and the concrete materialist approach of the Western intellect evolved out of its mechanical model of health care, and the Eastern cradle of civilization, the Indian subcontinent allowed it to grow and develop into an organised holistic system coexisting with other traditional systems. This adherence to the tradition and experiential concepts behind the Unani system has strengthened the human being as a bio-psycho-social and spiritual unit.

The origins of the four elements, which are common between Ayurveda and Unani, are attributed to the Pythagorean mathematical principles. How can the core concept of elements be attributed to two different sources—one Indian the other Greek? Similar is the other core concept of humours. There are four humours *vata*, *pitta*, *kapha and bile (pitta)* is described as being two kinds, namely black and yellow.

Consequently, the temperaments too are of four kinds instead of three as in Ayurveda. This leads to a speculation regarding the origins of both concepts of elements and humour. What is clear and deliberately contrived are removal of the trappings of social and religious rituals from the practice of medicine. If the medical practices indeed were of Greek origin, why did they not carry traces of early Greek healing practices? Perhaps the Ayurvedic concepts were used but without both the Indian religious and social trappings. The early Greek magical practices were kept out to free medical system of superstitious and magical thinking. However, Greek and Unani systems attributed to Hippocrates too did not meet the

approval of the modern medical systems, as neither the elements nor the humours find any place in the modern Western medical systems. Holistic approach is the antithesis of the fragmented approach of super-specialisations, which is the hallmark of modern medicine.

18.3 Developmental Approach

Unani medicine has adopted a very strong developmental approach. The concept of ageing has a pivotal place in the Unani system. The process of ageing starts from the conception of the foetus to death. According to Unani concept, *tab'iyat* (nature of the body) controls all the faculties and functions of the body and slows down bodily function. This in turn decreases the production of *akhlat saleh* (cleansing leading to health) and increased production of extraneous moisture (Itrat et al. 2013).

While the above shows the way to geriatric care, childcare as described earlier in Part I reveals that developmental perspective is used extensively in childcare. This includes care of the pregnant woman, nursing mother as management of childbirth in a hygienic manner. Feeding, bathing, massage, exercise are described with attention to detail. Ibn Sina has described at length what promotes emotional and cognitive development and ages at which learning takes place.

It is important to note that the Unani system does not advocate any ritualistic practices. This is in complete contrast to Ayurveda, Siddha and Tibetan medicine. Yet it shares the core concepts entirely in tune with the other systems. Except for an occasional mention of the prophet there are no religious/spiritual associates in the Unani healing practice. It is indeed curious to find how this has happened, especially in India, where it grew enormously under the Mughal patronage?

There are parallel folk healing traditions called the Prophet's medicine based on Quranic rituals. This is called Hadiths, as opposed to the elitist practice of Unani (Liebeskind 1995). This explains how these may have coexisted. There is a suggestion that folk and ritualistic practices in India influenced the Unani system to incorporate tying of *talisman,* warding off evil eyes and so on.

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Chapter 19
Gleanings from Siddha Medicine

The mythological aspects of Siddha medicine figure predominantly and frequently in the practice of childcare in Siddha medicine, be it aetiological speculations or treatments. While Shiva and Parvathi were the creators of the system in their benign forms, *tantra* practices are attributed to their violent forms termed Bhairava and Bhairavi. Their offspring Shanmukha or Murugan is an important deity for worship. *Balavagadam* is the branch that deals with childcare in a developmental context. It appears to depart substantially in its narratives of developmental phases and disorders in the other systems.

The origins of the Siddha medicine, least to say, are most intriguing. Historically, it has been considered to be the oldest, yet it has strong links to Ayurveda and *tantrik* practices on one hand and Chinese medicine on the other. Its uniqueness lies in its search for immortality and alchemy.

All the elixirs and yogic/*tantrik* practices aim at achieving immortality. The Siddhars were supposed to be immortal with eight supernatural powers. While some Siddhars were physicians, there were others who excelled in literature, philosophy and poetry, taking the Tamil language to extraordinary heights. The preoccupation with embryology seems to be related to the promotion of 'healthy' seed in the search for immortality. The anatomical description based on '*chakra*s' is common to *tantrik* and Tibetan systems. The question is, where did these *tantrik* practices originate? But it is clear that Siddha medicine uses these a great deal to promote longevity in adults. However, the *kulisam*s (talismans) for child protection and treatment are very widely used even to this day.

19.1 Embryology

Siddhars were preoccupied with 'healthy seeds' for the entire life. They brought this out clearly in the care of the foetus and pregnant mother. Childcare actually starts

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much before birth when it is formed in the mother's womb (Thottam 1983). The food she takes, the hygiene she maintains, the work she does, all contribute to the well-being of the foetus. The symptoms common during pregnancy such as urinary problems or stomach pains and their treatments are described by Agasthyar. There are preventive treatments to promote health and prevent abortions and miscarriages. The various months of pregnancy is replete with specific rituals and diets. The equivalent of *simantonnayana samskara* exists in the Siddha system too.

From a developmental perspective, the fact that the mental and physical health or ill-health of the expectant mother affects the foetus is recognised as in routine practice of childcare. This is light years in advance of contemporary paediatric practice. Even of greater relevance is the psychological well-being of the mother on the yet-to-be-born infant. Thus the expectant mother and the foetus are treated as a single unit.

19.2 Care of the Infant and the Child and the Developmental Phases

Though Siddha is the oldest of the systems, child development is observed with uncanny acumen. Monitoring the developmental stages of the child with fine calibration of behavioural and interactional descriptions is simply amazing. It is so rooted to the culture that the medical system hardly bears any resemblance to what is practised with adults. Among the adults it is the ideal of longevity and good health while in children it is to promote through activities with the child that motor, sensory and psychological development occurs in an unimpeded manner. Each of the *paruvam*s is significant from the context of developmental psychology as these emphasise equally both physical and psychological developmental phases. The first three rituals namely, birth announcement, introduction *marunthu* by maternal uncle and naming are essentially social ceremonies. These highlight the importance of society and family relationships. While the married woman no longer belongs to the maternal family, one member, namely, the brother remains a constant figure in the various rituals. This ensures that the link between the maternal and marital home still maintained.

Piercing of the ears is typically a Hindu ritual, but is attributed medical significance and not simple body ornamentation. Introducing rice during weaning is a health guideline. At the end of the series of rituals, comes introduction to education.

The normal developmental stages are called *paruvam*s. This is a uniquely Siddha concept that describes motor and psychological development according to the chronological age of the child. For the infants, *kappu* and *chenkaerai* are motor development of the very young till 5 months of age. *Muthu* refers to kiss. The baby responds to lip movements suggestive of kiss between 3 months and 1 year. *Thallam* is the tongue movement and protruding of tongue on command. This is the babbling stage—a prerequisite for language development. *Sappani* is clapping hands on command, where the hand coordination is achieved.

Varugai is the anticipatory movement towards a person, prior to being picked. It is interesting to note that such movements are found to be absent in autistic children. *Ambuli* is a very interesting developmental phase. The caretaker shows the moon to the child and playing and talking/singing about bringing the moon to the child. One could imagine it to be a Piagetian preoperational cognitive stage where the child believes that he is at the centre of universe. Hence the moon can be caught and brought down to him.

The *paruvam*s are traced back to works of Pillaitamil. It is believed that he was the most renowned literary figure of the period and that he had described baby Krishna's development in terms of *paruvam*s.

It is of interest to note that the rest of the activities and phases differ for boys and girls. For boys, it is *chitril* or building a house of sand, *siruparai*, or playing on small musical drums, and *siruthair*, or pulling a small cart. The first one promotes eye–hand coordination and kinaesthetic control, the drum beating promotes rhythm in sounds, and pulling the cart, walking and dragging a cart in a coordinated manner suggests further development of kinaesthetic control, greater strength and control over limbs.

However, girls are given three entirely different activities: *ammannai, neeradal* and *oosal.* The first one is either word games of question and answers or their juggling small pods/beans without dropping, second one is water play and the third one is playing on swings. Why are the activities offered to boys and girls so different? Perhaps it may have to do with the proclivity and inclination of the child (nature?) or with the aim of promoting a particular set of skills that are socially desirable (nurture?). Are we dealing with gender difference or gender discrimination or both?

The physical, psychological and social contexts of the *paruvam*s are very fascinating. It throws light on the intimacy of relationship revealing attachment and bonding between the mother and infant as a playful and an interactive one. The idea that the child's world can be understood by an adult itself is an advanced psychological perspective—especially as seen in the Siddha literature and Tamil perspective on socialisation. None of the other medical systems has shown such fine grained analysis of phases of development in early childhood.

19.3 Childhood Disorders in the Developmental Context

In the *Kashyapa Samhita* the link between the *samskara*s may be speculated upon and not explicitly stated. A crude division in the paediatric age is into one who is wholly on milk, one on milk and cereal and one who is totally on cereal, is made. In the Siddha system, the developmental phases are explicitly described in relation to the various childhood disorders: common and serious disorders. Disorders are caused by intrinsic or inherited from parents, extrinsic or acquired after the birth. The overlap between developmental phases and disorders is a highly advanced developmental linkage which is aimed at and yet to be achieved in contemporary developmental psychology.

For example, *grandhi* occurs in the *kappu paruvam* from birth to 3 months. This is an inherited condition with blisters of red and black variety all over the body (possibly epidermal bullosa) likely to persist throughout life—according to current paediatric diagnosis) along with some nonspecific symptoms.

Third month to one year is called the *mutha paruvam.* During this period disorders termed *thodam*s occur. These are of many varieties. There are some very interesting aetiological speculations. The term *thodam* means touch and the sources of the touch are least to say, are intriguing. *Thodam* are due to big, medium-sized or small birds or evil spirits that are eight in number. One can only assume these to be tick borne, or avian flu kind of diseases which young children are vulnerable. According to Rajeswaran et al. (2011) there are some common symptoms. All the *thodam*s have dysentery and diarrhoea as common symptoms. These symptoms may be equated to dysentery and diarrhoea of viral origin along with dehydration.

Matham is a group of gastrointestinal disturbances caused by digestive disorders due to poor assimilation and absorption of intake. *Paal matham* may be lactose intolerance. This in turn leads to loss of micro and macro nutrients. Around 53 types of *matham* have been mentioned and have in common gastrointestinal disturbance.

Kanam represents a group of respiratory disorders and are of 16 types. *Matham* precipitates *kanam.* This occurs between 3 and 7 years of age. Symptoms range from soreness and discolouration of the tongue, cough, fever, structure of ribs (suggestive of rickets) (Rajeswaran et al. 2011).

The symptom descriptions of those times may overlap but seem to identical to many of the following syndromes found in modern paediatric text books. These neonatal disorders are diagnosed in the current scenario as metabolic disorders (Chakrapani et al. 2001; Hoffman et al. 2002) are as follows:

i. Metabolic acidosis
ii. Hypoglycaemia
iii. Cardiac disease
iv. Liver dysfunction
v. Dysmorphism
vi. Foetal hydrops

Neurological presentations may have symptom-free intervals, with lethargy, poor feeding, followed by altered states of consciousness and seizures, ending in coma. The examples are: acidosis and urea cycle disorders. Severe neurological disorders are without symptom-free intervals. These are characterised by encephalopathy, seizures and apnoea, caused typically by primary lactic acidosis, nonketolic hyperglycaemia, sulphite oxidase deficiency and pyridoxine dependency. If associated with profound hypotonia, dysmorphism or congenital anomalies are caused by peroxisomal disorders and mitochondrial disease.

Even to this day, metabolic disorders can diagnosed only with extensive laboratory investigations, while the Siddha physicians had to rely only on their clinical observations.

19.4 Treatments

The treatment consists of specific roots and threads tied with charms around the wrists or ankles. Engraved with mantras, copper plates rolled in coloured threads are first offered to the gods with prayers, and then tied around the hip or neck of the child on a yellow thread. *Parai thodam* is suggestive of metabolic disorders with seizures and often is fatal. Both herbal and *tantrik* methods are adopted. *Pul thodam* is caused by ten kinds of birds. These features of dehydration in the child are treated with herbal decoctions. *Etchi thodam* is caused by evil spirits. It could be 'failure to thrive' or metabolic disorders. Treatments are once again herbal and *tantrik*.

The 'evil eyes' are caused by demon spirits or even polluted human beings or by insects. The polluting human beings may be due to different causes. The female *thodam* could be by a woman who has not bathed after sexual intercourse, menstruating woman, one who is desirous of gestation, woman with a baby or one who had an abortion. All these seem to indicate that people who are unclean should not touch the baby. The male *thodam*s are of men who just had intercourse.

One of the unusual *thodam* is caused by touching or in the presence of a toad. Most of *thodam*s are contamination by birds/insects/toad or people who are physically or psychologically not pure or clean. On the whole, most of the *thodam* disorders appear to be metabolic disorders and are hard to treat and the infants are vulnerable for developing them at birth or soon after.

The other childhood disorders that are acquired have clearer description of symptoms, observation with superior observation and clinical acumen.

The diagnosis is made on detailed examination of pulse. The physician is required to even understand the nature of crying and diagnose the illness. These are common disorders across all the medical systems. The treatments are mostly herbal and specified diets and herb infused baths.

To summarise, when diseases are severe and often fatal, in infancy they are likely to be metabolic disorders especially in those days of unknown aetiology. These diseases were attributed to evil spirits or unclean practices. *Tantra* has a pivotal place in the Sidhha system. *Tantrik* practices were commonly carried out. It is interesting to note that no metals or minerals were used for treatment of children despite their extensive use in adults. One may speculate that childcare practices are more rooted to the traditional folk healing practices than the systems developed by the physicians. But the *thodam* concept reveals an extraordinary attention to cleanliness of the infant and disorders acquired through contagion.

The *paruvam*s of the Siddha system especially combining developmental stages and disorders that occur in each of these stages is an extraordinary clinical practice. This combines the motor, psychological and social development of the infant and links to disorders specific to those stages. The development stages described in the *paruvam*s are at the core of developmental psychology. Much of the contemporary research on play suggests it to be the major activity to promote healthy overall development. The *paruvam*s go beyond it and suggests that the play, interaction and communication with the caretaker as the key to enhanced development.

This is supported by the role of play in the promotion of motor, intellectual, cognitive language, emotional, social and moral development as suggested by Schaeffer and Conner (1983) and subsequently borne by research by eminent developmental psychologists.

In the Siddha system of childcare and treatment plant/animal product is inextricably woven with rituals and prayers even when collecting these materials. *Tantrik* rituals and talismans are extensively used. However, among adults the focus is on achieving special powers and being immortal. There is definitely a complete break between the two in terms of actual practice. Only in embryology does one find a link. Achieving a superior life form at conception in the long run aims at being a Siddha. But the immediate aim of childcare is to have a healthy child. Thus Siddha system is a mixture of several medical systems, yet the paediatric section is fairly simple based on local knowledge of herbs/plants animal products.

The description of *paruvam*s attributed to Pillaitamil may have been introduced later in the Siddha system, blending inextricably developmental phases and disorders of childhood.

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Chapter 20
Gleanings from Tibetan Medicine

20.1 History of Tibetan Medicine

Though the available literature in English on Tibetan medicine is sparse, there is abundance of it in Buddhist philosophy. There is a fairly meticulous chronological record of history of Tibetan medicine (*Men-Tsee-Khang,* fifth edition 2009). It is fascinating to note that despite the treacherous landscape, high altitude and extremes of climatic conditions, Tibet has been a very hospitable host to physicians, scholars and spiritual leaders from the West, from India and China.

The visitors and the Tibetan scholars travelled, exchanged views and compiled volumes and medical texts. Many of the visitors to Tibet permanently settled there. There is an intriguing reference to Galen, the famous Roman physician, staying on in Tibet. A study of who contributed what to Tibet medicine would be an interesting area of exploration. There are also references to child prodigies in Tibetan medicine as in the case of Vriddha Jivaka, the scribe of *Kashyapa Samhita*. Tibetan medicine is one of the oldest religions starting with the Bon religion, and integrating other medical systems as well as Buddhism.

With the advent of Buddhism and the Tibetan script, the medical texts accommodated Buddhist philosophy (psychology), Indian and Chinese astrology. Buddhist religion became a part and parcel of Tibetan medicine, as the Medicine Buddha is considered to be the originator of Tibetan medicine.

After the fourteenth century, the Tibetan medical system split into two main schools, Chang and Zur, named after the lineage of the founders. The Chang system originated in the north and Zur in the southern valleys and they differ only on minor details (Meyer 1995).

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20.2 Key Concepts in Tibetan Medicine

Meyer (1995) offers some explanations for some of the key constructs. According to him wind, bile and phlegm are not gross materials but metaphors expressing abstract principles or energies. These are evident based on empirical observation of biological fluids such as gastric mucus, bile in the gall bladder and respiration. Meyer further explains that these concepts are ascribed qualities that exceed their physiological basis. The notion of channels is influenced by *tantrik* traditions of *kalachakra* (wheel of time). The five aggregates of the person are body, feelings, perception, volition and consciousness. Mahayana Buddhism is particularly associated with psychophysical techniques of yoga.

Khenpo Troru Tsenam (1995) offers a simpler description. He considers the humours as the manifestation of interplay of the elements. The elements exist at different levels and their manifestations vary in a complex way according to their level. To give some examples: the earth is the material quality of matter, weight, hardness, resistance, which in human body is flesh and bones. Water is the power of bonding and lubricating quality and in the human body this is the fluids and overall cohesion between the physical constituents. Fire represents development and coming of maturity of the matter. In the human body it is the heat of digestion. Wind is dynamic, represents movement and flow. In the body it is circulation of oxygen, the flow of blood in the veins and arteries and the impulses in the nervous and lymphatic systems. Space is what allows the other elements to fulfil their functions. In the human body it consists of hollow places and orifices. The elements within the body are its constant interplay with those outside in the environment, through food, drinks, oxygen and with impulses and senses.

Two major considerations apart from the physical body are mind and speech. This forms the core of Tibetan medicine, in addition to the core constructs of humours and elements it shares with other indigenous medical systems. This makes the Tibetan medicine unique that it is medical system that operates on psychological principles. Speech is yet another component as it makes use of mode of social communication as a part of it. Thus, Tibetan medicine is a system based on Buddhist psychology and spirituality.

The confluence of Tibetan medicine, Buddhist philosophy and Tibetan astrology was showcased in a conference at Men-Tsee-Khang in Dharmasala in 2013. The aim was to empirically examine age-old constructs through methods of scientific empiricism. The traditional Buddhist methods of rational analysis, study, reflection and meditation were highlighted. Both in the Sutra and the Tantra systems, the conceptual mind, cognition and consciousness are at the core. Mind is incorporated into human body and is in constant interaction with it. The Tibetan medicine contributes to the understanding of the external universe and the formation of individual life and the interaction between the two. The following section is what the author could glean from the above-mentioned conference.

20.3 Time and Space Dimensions in Tibetan Medicine

Embryology is the starting point when life begins. In Buddhist philosophy, it goes beyond the present to the past as well as to the future. The karmic forces propel the life before birth, throughout the lifespan as well as after death, giving it continuity. This is the time dimension of Tibetan thinking. It is very basic to the belief in reincarnation, which is a hallmark of Buddhism.

The astrology too is embedded in embryology, charting the development of the foetus from the moment of conception (the inner space) constantly being subject to the impact of the outer space, with the commonly shared five elements.

It may be speculated that Tibetan medicine, goes way beyond developmental psychology both in time and space dimensions. Only by accepting the basic premise of Buddhist philosophy of supremacy, existence and continuity of mind in all living beings, we can understand the concept of continuity and oneness of man and his environment.

Only in Tibetan medicine the action of mind on the functions, nature and role of the sensory consciousness, with the body is dealt at length in the description of phenomenology, aetiology, treatment and prognosis. In no other medical system, contemporary or ancient, mind (psychology) has a pivotal place.

In the following section, the developmental perspective is described in a more conventional manner.

Tibetan medicine is distinct and different from other systems despite commonalities, due to the original sources. Perhaps it has been influenced by almost all the ancient medical systems. The original Bon religion and healing practices have been influenced by Indian Ayurveda, Buddhist philosophy in addition to the Greek medicine from the West and Chinese medicine from the East. These influences have produced a system of astonishing vibrancy and variety. Foremost are the narratives of the medical texts: poetic and full of metaphors. The instructional methods also include a wide range of *tankha*-style medical illustrations based on the metaphors. The focus is of course on the body, the mind and speech. To the present day, of the four Tantras attributed to the Medicine Buddha, only three of the four Tantras have been translated into English. These are the Basic Tantra, Explanatory and the Subsequent Tantra. The paediatric branch in particular is yet to be translated. The text used here was translated personally by Dr. Tenzin Lhundup for the author, who owes her a great debt of gratitude. The texts are complex and at time appear farfetched and unscientific. But the main theme is the harmony of the body and the mind and its relationship with the environment, which in turn, is a part of the cosmos. In view of the above complex system in relation to health, the qualities of the healer assume a great importance. In fact, the healer's qualities matter the most in the healing systems. In the Western medical system it is described as physician's professional competence. But in the Tibetan system the healer is a reservoir of knowledge and spirituality: truly the ultimate physician.

20.4 Developmental Context in Tibetan Medicine

The other important area of study is embryology. In comparison to the other systems it is of paramount importance to Tibetan medicine (Garret 2008). This is so because it is the beginning point of Buddhist philosophy, Tibetan astrology and of course, of Tibetan medicine. This important merging of the three distinct disciplines is revealed by the presence of Men-Tsee-Khang (Body-Mind-Life) institution, earlier in Lhasa in free Tibet and now in Dharamsala in Himachal Pradesh. This is set up by His Holiness, the 14th Dalai Lama of Tibet. These three branches are part and parcel of the Tibetan healing practices.

Buddhist philosophy focuses on the influence of the mind over the body. The existence of the mind is traced back beyond birth, to the point of conception. It is taken even beyond conception as the Buddhist philosophy postulates karmic forces before one's present life and believes in reincarnation. Astrology focuses on the commonality between the internal space of human being and the external space of the universe. The five elements that create the human being also make him the part of the universe as it shares the same elements. The Buddhist astrology has borrowed heavily from Indian and Chinese astrologies and consequently *kalachakra* is an essential component. There are thus internal and external *kalachakra*s with a third alternative *kalachakra*.

Coming to Tibetan medicine, *Lhung, Tri-pa* and *Bad-kan* together create the physiological processes and these are influenced by the mind. The *Lhung* represents an attraction/attachment dimension. *Tri-pa* represents anger and such other negative emotions. *Bad-kan* represents the lack of both. Compassion is at the core of all healthy interactions. This is also seen as the most important quality of a healer.

To summarise, the three disciplines, namely Buddhist philosophy, Tibetan astrology and Tibetan medicine begin with embryology. Astrology expands outwards to the cosmos and inwards influencing the development of the foetus. The foetus in turn is anchored to one's karmic forces. Embryology is the ultimate essence of developmental psychology in the true sense of term.

20.5 Childcare in Tibetan Medicine

Soon after birth, for the first 3 days there are some auspicious signs consisting of normal delivery with the head presentation, umbilical cord around the chest, the birth cry and elongated head, big forehead, clear complexion, wing like ears and sucking energetically. Some are signs of a healthy baby even in current-day paediatrics, while others are of predictive nature in the Tibetan lores such as big forehead, wing-like ears and so on. The inauspicious signs are not only opposite of the auspicious signs but also have signs like born with teeth or early eruption of teeth, while difficult labour of course are negative signs. The prediction is that the auspicious signs indicate that the child will be easy to bring up, will be successful and happy and wealthy. With the inauspicious signs the child will be difficult to bring up,

will grow up to be sad, poor and less intelligent person. It is interesting to note that wealth and success along with high intelligence are considered desirable qualities.

Birth is followed by recitations of auspicious greetings. At the same time, medical attention to cutting the umbilical cord is given. The auspicious rituals also consist of medicated water to be given and the infant is fed saffron water, which is supposed to facilitate good speech. The spoon used has sacred significance as it is inscribed with the Buddha's name. Warm water with deer musk is poured over the body to protect it from dangerous spirits from the environment. To promote intelligence, strength and longevity, medicinal butter with honey and molasses are given. The nursing mother is given various concoctions to enhance milk production. But if the mother does not have milk, an ideal substitute wet nurse is sought.

20.6 Care of the Infant for the First Three Days

There are protective offerings made of barley flour within the house—called *torma*. There are also *PomTa* rituals done by the high lamas or masters. These rituals not only protect the infant but also divert the attention of evil spirits. There are separate symbols for the boy and the girl, namely a bow and an arrow respectively. The protective rituals also consist of exposure of evil spirits to smoke by fumigation. There are also monthly offerings to god.

20.7 Naming Ceremony

Names are given on the basis of stars, planets and gods. These are also determined by the clan (*ruspa*). Frequently, change of name is given if there are frequent deaths of babies in the family. If there are only female children, a female child is given a male name.

20.8 Piercing of Ears

This is a ritual carried out at the eighth month for boys and girls.

Behaviour prescriptions for good care demand that direct sunlight should be avoided, the baby should not sit too close to the fire, avoid cold breeze, the baby should be kept warm and kept away from all dangerous places. These seem appropriate to the high altitude mountains in Tibet.

Teeth eruption produces pain. It is poetically compared to the pain of a baby peacock when feathers emerge from its skin. Massage for the gums with honey is recommended. This stage ends with the removal of the *PomTa.* From the above description it may be seen that there is a judicious mixture of sound medical knowledge, Buddhist spirituality and *tantrik* practices in the child rearing. The description of the dangerous places is obviously a common-sense precaution to the young mother.

20.9 Common Disorders of Childhood

Childhood is identified as being from 0 months to 16 years. Apart from this, no attempt is made to distinguish developmental phases beyond early childhood.

The aetiology of diseases is attributed to the mother as well as to the child. These could be hereditary or acquired. One could presume that the treatment of the mother and the child is carried out as single unit. The disorders in older children may be due to mother's poor child rearing practice. The types of disorders due to the mother are: unhealthy diet, lifestyle, poor hygiene are obviously based on sound principles of child rearing practices. But evil spirits affecting the mother and the child directly are attributed as causing child disorders. But the list of disorders is commonly known ones such as multiple disabilities and facial malformations. Interestingly, cleft palate has surgical treatment—and while others have no cure. There are detailed descriptions of mother's poor care taking with examples. Diet too forms an important contributor being 'too hot' or 'too cold', in the *Lhung, Tri-pa* and *Bad-kan* framework.

Treatments consist of diet, lifestyle, medication and therapies. In addition, venesection, moxabustion, compression and light enemas are also given. Modern paediatric equivalent terms are not available but attempts are made to arrive at some modern diagnosis.

20.10 Under the Most Severe

1. Nervous disorders: Lymphoedema: both congenital and acquired.
   The hot disorders could be: infectious diseases, seizures or hypothyroidism, GERD (gastro-esophageal reflux disease), pneumonia and hepatitis. The cold disorders could be torticollis.
   Interestingly, the examination is conducted on the veins of the ear lobes and of mother's milk along with pattern of crying of the infant. The description of the diseases as of heart (slow pulse), skin temperature (hot or cold), frowning, burping, swelling of body, rumbling of stomach, loose motions, pain while passing urine and so on. These appear to suggest contemporary paediatric terms hyper- or hypothyroidism, heart, lung, liver diseases, gastrointestinal and urinary tract infections. Contagious diseases with frequent sneezing could be allergic rhinitis. Yawning may indicate brain disease.
2. Lung disorders: These are believed to be due to humoral imbalance and contagious diseases. These may be due to multiple aetiologies. These could be rheumatic or neoplastic in origin including viral infections. These could be in the upper respiratory tracts or could be sinusitis or allergic rhinitis. The symptoms described are mixed, but some of these could be diagnosed as follows:

   (a) Those related to breathing and chest may be due to pneumonia, heart murmur or pericarditis, weak pulse and dull mind due to dehydration. Voice obstruction may be laryngitis.

(b) Contagious diseases with prolonged cough without sputum and fever may be pertussis, asthma, strong pulse coarction (narrowing) aorta, reactive airway disease and so on.
(c) Strong dry cough being pertussis, mycoplasmic infections, asthma, swelling of eyes—perceptual cellulitis due to allergens, swelling of lips, angio-oedema being allergic reaction, whitening of gums and tongue. Oral thrush, blue veins in the ears, perceptual cellulitis/orbital allergic reaction.

3. Liver disorders: Hot Symptoms—The description suggests dehydration and urinary tract infection. Cold disorder symptoms suggest cirrhosis of the liver.
4. Loose motions: The hot variety could be bacterial gastroenteritis and the cold kind could be malabsorption syndrome, obstructive jaundice (post-hepatic jaundice).
5. Vomiting indicates upper gastrointestinal bleeding above the level of ligament. Vomiting of blood or bile is possibly due to obstruction of the bowel.
6. The category of contagious disorders appears to suggest allergies with fever.
7. The umbilical cord related disorders could be umbilical hernia or omphalitis.
8. Calculus is attributed to not enough intake of water and individual predisposition of the formation of stones.

Under the moderately severe kind there are eight disorders. Mud-eating is called pica and may lead to lead poison. Breast milk vitiation that forms a major diagnosis does not have an equivalent in current paediatric diagnosis.

There are certain interesting dos and don'ts of childcare. Thus, not protecting the child from injury, falls and battering, allowing the child to cry too long, unhygienic care of the umbilical cord or keeping the child in urine-soaked clothes over a long period of time are considered to be causes of disorders. Interestingly, making the infant stand up before he is ready has been mentioned. This indicates definite awareness of various developmental milestones.

There are eight types of very severe disorders, eight types of moderately severe disorders and another eight mild disorders. The total number of disorders is 24. The general and specific symptoms of childhood consist of clinical symptoms derived from behaviour observation of the child.

These are: crying all the time, crying aloud when touched over the area where there is pain, being dull and not playful, loss of appetite, difficulty in breathing, difficulty in opening the eyes and so on. There are distinct signs of poor prognoses. There are other signs of good prognoses such as radiance, normal breathing, slow pulse, feeding well.

The medical advice is to treat when these signs are observed.

Mild Disorders: Under the eye disorder nasolacrimal duct (NLD) obstruction may be diagnosed. In mouth disorders, yellowish pimples may be certain deposits. In the skin eruption, these may be furuncles.

In the above-mentioned sections, overlapping of symptoms render syndromal diagnosis difficult. But astute clinical observations are a marvel.

If we examine in the current paediatric scenario, children often present multiple, overlapping symptoms. The aetiological speculations of Tibetan origin are entirely

at variance with current-day paediatric diagnosis. However, it is noteworthy that the affected part of the body and symptom descriptions show a great deal of clinical acumen. The fact that these healing systems flourished in the absence of any confirmatory laboratory findings and were based entirely on clinical observations.

Chapter 16 deals with disorders attributed to the supernatural aetiology. These serious and often fatal disorders of unknown aetiology are attributed to evil spirits. What is interesting is that along with types and symptoms prognosis, whether good or bad, is part of this section. The most interesting part of this section is that all the 12 disorders find their equivalents in the *balaroga* or *grahroga* of Ayurveda. In Ayurveda these are called the '*graha*s' which seize the babies who are named after Hindu gods, animals and demonesses. In the Tibetan system, while the syndromal descriptions remain the same, the names given to these are different. These are based on the appearances of sheep's face, crow's face, hungry ghost, blue bird, black pig, cold black pig, yellow dog, dry yellow dog and black deer. These consist of five male and seven female evil spirits and there are two messengers. But the symptom descriptions are similar to serious disorders of *balagraha*s.

However, in Ayurveda the aetiology is attributed to the *'graha*s*'* while in the Tibetan system these emanations are due to *Lha Chempo* (this goes back to the mythical story of Shiva and Parvati were interrupted by a spirit when they were having coitus and consequently got cursed). This is drawn entirely from the Hindu myths. But despite this explanation, aetiology is attributed to ignorance, the root cause of the three mental poisons of anger, attachment and delusion, and karmic imprints, along with faulty childcare, drawing heavily from Buddhist philosophy.

It is interesting to note that several of the Hindu gods, goddesses and demons are part of the Tibetan healing traditions (Paljor et al. 2008). For example, *Saraswati* medicinal butter which is used to promote intelligence refers to the Hindu goddess of learning (the muse). Hindu gods and sages form the audience for teachings of the Medicine Buddha. The seamless incorporation of different systems of healing, mythology, astrology, spiritual and *tantrik* practices into Tibetan medicine is truly astounding.

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Chapter 21
Reflections on Childcare Across Systems

Treatments for adults in all the systems consist of plants, metals, minerals and aggressive and intrusive physical treatments, while treatments for children are usually mild and mostly made of plant products. Gold is the only metal given in minuscule amounts to children. All systems subscribe to minimal yet optimal amounts of medicine. But most importantly the treatment is given to the nursing mother when the infant is wholly on breast milk. Even administration of enema is a much debated topic as revealed in the *Kashyapa Samhita* (K.S.). It would thus appear that though basic principles are same in the four systems for the treatment of adults, the treatments of children differ vastly from that of adults. This is in stark contrast to the Western system of medicine. In the Western system the differences are only in the amount, potency and palatability of the drugs. Drug dosage is inevitably calibrated according to body weight.

This chapter contains the author's own impressions of the four systems that were described in the earlier chapters. These are covered under the following themes:

1. Qualities of a Physician
2. Embryology
3. Care of the Mother and the Child as a Symbiotic Unit
4. Breast Milk
5. Rites of Passage
6. Childcare Systems
7. Scientific Methodology
8. Prognosis or Prediction
9. Linkages to Folk Medicine
10. Highlights and Differences

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21.1 Qualities of a Physician

In the days of Hippocrates there was an oath and a code of conduct for physicians. It still remains, but with much less emphasis in actual practice. What is considered most important is the professional competency attained by the physician. It hardly examines his personality characteristics. It focuses only on the training in a particular specialty that an intern undertakes. The physician is concerned only with the specialty area of expertise and not even concerned rest of the body of the patient. "Physician, heal thyself" remains only a saying.

The indigenous medical systems treat the physician a main pillar of healing, along with the others namely, the patient, the treatment and the attendant. The physician's qualities are of utmost importance as seen in the section on physician's characteristics in the different indigenous systems of health care.

The *Kashyapa Samhita* has a very elaborate description of what a healer of children should be. He even says that the physician should have superior knowledge as it is harder to treat children and he will suffer from pangs of conscience if he makes mistakes. He gives detailed description of the body movements, cries, reactions, even smells indicating different disorders. The paediatrician has to depend on his clinical observation while he diagnoses a child. *Kashyapa Samhita* believes that the healer should be a *satvik* person.

In the Siddha medicine too there are requirements as to what a physician should be. Interestingly, the patient is advised to pay the physician. On the other hand, the physician is told to know his limits, as the patient carries his karmic processes in his illness. Thus, if the physician takes the payment, he too will have to share the karma of his patient—thus indicating that the physician should not take payment, but the patient is obliged to offer it.

In the Tibetan system, the physician is given the knowledge of medicine directly by the Buddha, hence compassion and enlightenment are part and parcel of healing. Healing includes body, mind and speech. Healing through the speech is a unique aspect of Buddhist/Tibetan medicine. The physicians are expected to adopt spiritual lifestyles like monks. Thus, the Tibetan system insists on the physician being a spiritual and compassionate human being. All the four systems insist that the physician not only be knowledgeable in the subject but also be a compassionate human being. The Tibetan system focuses on the healer as much as it does on the process of healing. Meyer (1995) describes the extensive training process that a physician of Tibetan medicine has to undergo.

The present-day dependence on super-specialisation and medical technology brings about even greater distance between the patient and his physician. While the four systems emphasise the importance of compassion, modern-day practice pays scant attention to such qualities, inherent or otherwise. The term "bedside manner" belongs to a forgotten lore. General practitioners who cared for the family with a holistic approach are a vanishing tribe.

21.2 Embryology

Childcare begins at the time of conception according to the indigenous systems. Thus, embryology is of foremost importance, while Western medicine held the opinion even few decades back that the foetus and the newborn were not sensitive to pain, and while even pioneering psychologists believed that the newborn's mind is a blooming, buzzing confusion. Skinnerian behaviourism in particular believed that any child can be made into a genius or an idiot through training.

Indigenous systems postulate that conception is the point at which a new life form takes place. The embryology sections of the four systems amply demonstrate this. Ayurveda, Siddha and Tibetan systems extensively describe physical and psychological aspects of the formation of the foetus. Specific mentions are made of intellect, memory, feelings of pain and pleasure, at each month in the womb. The *Kashyapa Samhita* (K.S.) even describes the foetus as the reservoir of the past memories. A fine distinction is made that a *satvik* individual carries this memory even after birth while *rajasik* and *tamasik* ones do not. The psychology of consciousness, memory are dealt at length in the *Kashyapa Samhita* (K.S.), as detailed by Kapur (2013).

Both inherited and acquired characteristics are viewed in an integrated manner. Good qualities of sperm and ovum are emphasised. These could be complemented by right diet, lifestyle and spiritual well-being. Interestingly, rituals/diets/lifestyles to promote gender choice too are advocated in Ayurveda (with *pumsavana samskara*), in Siddha medicine (with yogic*/tantrik* practices) and in Tibetan medicine through spirituality and guided by dreams. These need to be examined in an unbiased manner, as the physical description of the foetus at the different stages appears rather faulty. Knowledge of physiology and anatomy may not be accurate in these systems. In the Unani system there is a highly developed system of understanding of life trajectory from the point of conception to old age. This in fact anticipates the modern-day developmental context or the life cycle approach.

However, the most astonishing is the conceptual framework of embryology in Tibetan medicine. Embryology is embedded in three distinct disciplines. These are Buddhist philosophy, Tibetan medicine and Tibetan astrology. Strange as it may appear, this redefines a holistic approach that is all-encompassing and goes beyond the even holistic approaches of the indigenous systems.

In brief, in Buddhist philosophy the past karmic forces continue in all life forms and these life forms have reincarnations. At the nodal point of connecting the past and the future lies embryology. Thus, embryology is a very important subject within the framework of Buddhist philosophy. Tibetan cosmology is much influenced by Chinese and Indian astrology. The cosmos outside is replicated in the minute embryo. The astrology has its roots in the cosmos but influences each individual life form in its embryonic state. Perhaps it could be described as embryology as part of Tibetan medicine determines the health and disease of a human being. As a part of Buddhist philosophy it treats time as a continuous process in human existence. The Tibetan astrology goes beyond individual space and

straddles the cosmos as well. However, this is a very speculative explanation that needs to be examined further (Khang 2013). To summarise, the Embryology has a pivotal place in the Buddhist philosophy, Tibetan medicine and Tibetan astronomy. Childcare in Tibetan medicine is thus a very vast canvas, including three major systems of Tibetan culture. Their medical system is the most spiritual of the four medical systems. It is equally strong in its psychological moorings. Embryology is the spring board to go beyond time and space dimensions.

From a developmental perspective all the indigenous systems believe that life starts at conception. The foetus and newborns come to world prewired for acquiring knowledge, language and have feelings. This is completely in contrast to what was believed in paediatrics and psychology even a few decades ago.

21.3 Care of the Mother and Child

Care of the mother and the child is viewed as a symbiotic unit before as well as after the birth of the baby. The corollaries are: Expectant and nursing mother's physical and psychological health are crucial in promoting the child's development in the womb. This is during the period the baby is entirely fed on breast milk.

The physical environment includes mother's physical activities, her diet and prescribed social and religious rituals. The psychological well-being is ensured by listening to music, seeing good events or people and chanting auspicious verses. Those around are required to see that her life is free from stressors. In most Indian traditional families, the expectant and nursing mother is taken care of in her maternal home. Most importantly she is expected only to take care of the baby and all the other comforts including diet and massage are provided to her. Even mother's and baby's clothes are washed by others during this period. During this period, mother's sexual intercourse during pregnancy and soon after child birth are discouraged.

As all these happen in the maternal home, even the care of the infant is tutored by the mother's own mother. This offers a stark contrast to urban families, where soon after the delivery in the hospital—as well as during pregnancy—the woman is devoid of any support except that of her husband. All her marital and social responsibilities continue to be the same.

This special status for the pregnant woman and the nursing mother is clearly described in Ayurveda and the Siddha system. In the Unani system, clear instructions are given for physical care including diet and lifestyle. In the Tibetan system pregnant woman should avoid sexual intercourse and strenuous activities, especially in the eighth month. She should avoid poor sleep at night and day time sleeping. She should not intentionally control the bladder. She should avoid rich food that cause indigestion or constipation. External therapies such as enema, purgation and bloodletting are to be avoided as these may cause miscarriage or termination of pregnancy. Descriptions are given of the lassitude, loss of appetite,

yawning and lethargy as well as physical changes associated with pregnancy. It is interesting to note that the pregnant woman may desire for sour or spicy food. She should not be denied them as such severe restriction may lead to abortion or birth deformities. So small amounts of desired food may be given. Tibetan neonatal care focuses on spiritual chants. Auspicious and inauspicious signs at birth are very essential. Thus after the birth of the baby, the attention is given to the baby rather than the mother, the prayers and rituals associated with the newborn are very extensive. In all the four systems, the mother's and the child's humours are interlinked, as shown by the fact that medicine or drugs are given to the mother so that it reaches the baby through the breast milk.

21.4 Breast Milk

21.4.1 Feeding of Breast Milk

Breastfeeding is considered the best way to feed the newborn. In Ayurveda and Siddha, the colostrum rich milk of first 3 days is avoided. Instead, ghee, cow's or donkey's milk is diluted and given. Honey is avoided during infancy in Western medicine, while in Ayurveda only a particular kind of honey (*yasthimadhu*) is recommended. In Tibetan medicine saffron water is given and this is expected to promote language development. In Ayurveda gold preparations are administered. These preparations are meant to promote intelligence, memory, language skills in addition to physical development.

In all the four systems various special diets and medicines are prescribed for enhanced lactation. Thus, increased production of breast milk was actively sought. In the absence of supplements of the modern day, it was essential that the infant was breast fed.

However, one of the most interesting descriptions in all the ancient texts in the four systems is the description of the wet nurse. These descriptions run into pages in the *Kashyapa Samhita*. It describes the physical and psychological qualities of the wet nurse in terms of *tridosha* and *triguna.* It is required that she bears physical resemblance to the biological mother and be of similar age. She should have a baby of her own but with slight difference in the age of the baby that she is to wet nurse. She should abstain from sexual intercourse. She is also barred from wet nursing when she herself is physically ill. Her diet should be like that of the biological mother.

Why there was so much emphasis on wet nurses seems to be a question that needs to be examined by anthropologists. It is possible the mother may have died during childbirth or became too sick to feed the infant or may be of a higher social class and may not want to feed by choice or simply may not have breast milk. But it is definite that it was a widely prevalent practice as suggested by extensive writings on the theme in various texts.

21.4.2 Quality of Breast Milk

The other important aspect is the description of quality of breast milk. In the Unani system it is brief, while in Ayurveda, in contrast, it is very extensive. The quality of the breast milk, the taste and the smell are all described. Examination of the milk is carried out by dropping some into water. Whether it settles down, floats, curdles, etc., are described in detail. While in all the systems quality of milk is considered essential for the health of the infant. Ayurveda takes it beyond causing simple disorders due to indigestion or diarrhoea in the infant to the serious disorders under *graharoga*s. For example, the disorders of *putana, andhaputana* and *shitaputana* are attributed to vitiated breast milk. The symptoms attributed are diarrhoea, dehydration, hyponatremia and Vitamin A deficiency. In the epic *Mahabharata,* a demoness named Putana attempts to kill baby Krishna by breastfeeding him with poisonous milk. The name of these *graha*s may probably be attributed to the epic.

Breast milk is high in fat, cholesterol, protein, carbohydrate, minerals, nutrients and promotes hormones and enzyme function. However, it is stated that race, age or diet do not greatly affect milk composition (Jennes 1979). In contrast, the *Kashyapa Samhita* is replete with description of vitiated milk due to a variety of reasons.

In recent times, neonatal jaundice has been linked to breast milk mainly as a protective factor, occasionally also being a cause in older infants (cf. Lessen 2012). It has been noted that breast milk may carry allergens resulting in symptoms in the infant such as diarrhoea, bloody stools, vomiting colic, eczema, constipation and poor growth. One is not expected to stop feeding the baby but required to eliminate the allergy causing foods from the mother's diet. But in modern paediatrics, apart from this, treatments are always given directly to the infant.

21.5 Rites of Passage and Childcare

In Ayurveda, the *samskara*s blend seamlessly into rest of the childcare, especially in the *Kashyapa Samhita* (K.S.). The question is whether these were part of the medical treatises. These are known as part of *Grahasutra*s, a house holder's manual (Kane 1941). Why did the *samskara*s become a part of the Ayurveda system? The *samskara*s as developmental stages (Kumar 1999) are neatly placed the modern-day physician's examinations in each of the stages. Kumar's linking of *samskara*s as enabling rituals to assist the physician to examine the child accurately. A similar linkage is found in the Siddha system where finely calibrated developmental phases called *paruvams* are linked to some of the disorders.

1. The birth ceremony is quite elaborate in the Ayurveda, Siddha and Tibetan systems. In Tibetan system there are six rituals soon after birth and eight rituals for within 3 days of birth.
2. Naming the child is a common ritual but is carried out differently in Ayurveda, Siddha and Tibetan systems. Interestingly, naming the child in Tibetan medicine has a wide variety of sources. It also includes a male name for the female

child if there are only female births in the family; or, if there have been many infant deaths, the name of the baby may be changed almost every month. Since deaths are associated with evil spirits, rituals are carried out every month.

3. Piercing of ears: The intriguing claim of ear piercing as an inoculation deserves to be examined further. Ear piercing is a ceremony common to Ayurveda, Siddha and Tibetan medicine while not in Unani. Thus, the question arises, if these rituals were integrated after the Ayurveda system travelled to Greece or if it was shorn off by Greek physicians because of their religious connotations. Unani as practised at present does not have any associated religious rituals. But some physicians of traditional mould may use talismans and warding off of evil spirits.
4. In Ayurveda, the feeding of fruit and cereals come under *phalaprashana* and *annaprashana samskara*s, while in Tibetan medicine, white molasses, honey and medicated butter is given along with age appropriate diet. The Siddha system has a very distinct approach to child development. This includes birth announcement to the community, the specific role of maternal uncles in introducing a special decoction to the baby, to be continued every day, naming, piercing of ears, feeding cereals and induction of knowledge. What is interesting are the stages of development and their relationship to the disorders. The *paruvam*s clearly delineate the developmental stages. But from the perspective of developmental psychology, these have very special significance. These rituals give a calibrated description from the time the child behaviourally reciprocates a kiss, babbles in response to talk, claps hands and makes anticipatory movements to be lifted. This is one of earliest recorded descriptions of infant development in the author's view. Babbling as a precursor to language development is a far more recent observation. A common anticipatory gesture demanding to be lifted may be absent in autistic spectrum disorders. The *paruvam* of *ambuli* is the most fascinating of the *paruvam*s—a game played with the infant and the mother looking at the distant moon. Typically, songs about the moon and the baby are prevalent across in India in the various languages, using different gestures. But these are not to be considered to be a phase in development. In the Siddha system there is inbuilt and explicit gender discrimination—even in early childhood, as explicated in the three *paruvam*s for boys, of making house of sand, drumming and pulling a cart, and for girls—games of eye–hand coordination, making and blowing soap bubbles and playing on swings.

But the most important is the aspect of intimacy that occurs in the interaction between the child and the mother. The mother actually interacts with the child to promote physical, intellectual and social development. While rituals abound in Ayurveda, Siddha and the Tibetan medicine system, Unani stands in a stark contrast. No rituals are mentioned in the texts except occasional prayers to Allah. This could be related to early efforts by the Greeks to free the medical practices from superstitions without linking it to the Unani healing practices. Islamic rituals may well be practised independently of Unani healing practices. One does encounter the use of talisman or visiting shrines of saints and ritualistic practices associated with these visits. The dissociation between the two may have been adopted at a later stage to promote the idea that Unani is a science. Even Ayurveda can be

practised without the Hindu rituals with the exceptional treatment of *graharoga*s. But in practice, physicians of all the systems do partially employ certain religious/spiritual notions in their personal beliefs or in the actual care. Whether medicine as a science should not adopt the traditional holistic approach is an issue to be taken up at a later stage. To summarise, Ayurveda, Siddha and Tibetan medicine consider spiritual/religious and social practices important but Unani claims not to do this. However, the medicine of the prophet has *Hadith*s (Liebeskind 1995) based on Quranic approaches.

Rites of passage appear to be a very important component of the indigenous system. A close examination of each of these indicate that they are unique in each system and rooted to the culture where these systems originated. In Ayurveda these are typical Hindu rituals, with 7 of the 16 practised in childhood. The rituals are built around various Hindu gods, the five elements and protection from evil spirits and so on. The Siddha system too has its own rituals drawn from Hindu divinities and *tantrik* practices of Indian and Buddhist/Chinese origins. However, the description of *paruvam*s are claimed to be the developmental phases of baby Krishna, but on observation appear to be a part of normal and traditional child-rearing practices in south India, as indicated by the verses and songs. Tibetan rites are based on Buddhist philosophy with the monks being a significant part of the rituals, while the protective and warding off rituals appear to be rooted to the practices of the Bon religion of Tibet before the advent of Buddhism.

Only in the Unani medical texts one does not find mention of rituals, Islamic or otherwise. This would indicate that at some point of time in the development of Unani system, these were discarded rituals or were never part of the medical system. Perhaps Islamic rituals which are not part of the Unani system can be found elsewhere. Surprisingly, even 'circumcision', an important rite of passage, is not mentioned in the medical texts, especially with its claim of cleanliness. The paintings of these rituals are found in Uzbekistan, in their restored monuments. While 'ear piercing' has found its place in Ayurveda, Siddha and Tibetan medicine, 'circumcision' is not found to be part of the Unani system. It is interesting to note that among the pre-Islamic Dogon, people of Mali in West Africa, there are even twin gods of circumcision.

It may thus be speculated that in the ancient practice of medicine across the world, the same people functioned as priests/shamans and healers. Consequently, the distinction between rites of passage and healing practises were blurred or nonexistent.

5. Induction of knowledge: Introducing the child to formal education starts with *upanayana* at the age of 7 years in Ayurveda. In Unani it is at 6 years. While in Siddha and Tibetan medicine these are not clearly described. But all the systems consider play as an important activity to promote development. The high pressure to start teaching the child earlier and earlier as practised in South Asian countries does not have any cultural moorings—it is neither recommended nor acceptable from a modern developmental perspective.

Such accelerated approach to child development has been frowned upon in the indigenous systems. In the Tibetan system the mother is exhorted not to make the child stand up when he is not yet ready. In the Unani system overburdening the child

with too much study is considered undesirable. Though a child is a thinking/feeling being from the foetal stage, treatments are offered to promote intelligence, longevity. These could be with certain drugs using gold or plant products and special diets. The onus of enhancement of development is on the caretaker by providing opportunity.

21.6 Childcare Practices Across Systems

In all the four systems the safety of the child is of foremost concern. In all the systems safe places for the child to be indoors or outdoors are mentioned. The child should be kept away from water, fire, heights and unhygienic places are clearly described. Charaka (C.S.) even mentions that children should be taken to play under the neem tree, as the rainwater soaks in the soil under the tree, making it sterile and clean. The Siddha system warns of danger lurking in the form of birds, animals and unclean people in the vicinity of the infant. The Ayurveda and the Siddha systems prohibit infants and new mothers going outdoors and being exposed to infection. The vulnerability of the new mother and the infant to contagious diseases is made abundantly clear in these behavioural prescriptions. The concepts of evil spirits that seize children are pervasive in the Ayurveda, Siddha and Tibetan systems.

These treatises also advise how to hold the baby securely and not to suddenly drop it and not to cover it in rough or unclean clothes. In the Tibetan system there is a curious mention of not to have strangers around in the house of the infant, as unfamiliar faces frighten the child. This could be due to fear of contagious diseases or 'stranger anxiety' in the childhood. But sudden changes in the child's daily schedule are frowned upon.

1. The first bath and baths in general: Bathing the infant is an important component of child rearing practice in the indigenous systems. In Ayurveda and Siddha, massages for the infant and the mother are traditionally practised. In all the four systems medicated water boiled with herbs or plants are recommended. While salt application is carried out in Ayurveda and Unani for the first bath, all the four systems promote light oil massage, and the infant is bathed in lukewarm medicated/herb infused water. It is also recommended that these should be done before the feeds.
2. While the Unani system describes swaddling, the Tibetan system focuses on keeping the infant warm and away from the elements. In the Ayurveda and Siddha systems, bare body massage and bath and soaking in the sun are described. Traditionally, the caretaker/midwife keeps the infant on her legs stretched in front of her and massages the baby with oil and washes it off by pouring lukewarm water, protecting the eyes and ears. This is common across India. In the Unani system the bath is given in a *hamaam.* In the Tibetan system, baths are not as clearly described as in Ayurveda. The climatic conditions in the Himalayan mountains probably is the cause, while in the warmer climates baby baths and massages assume great significance.

3. In all the systems light diet is recommended once the baby is weaned from the breast. Treatments of common disorders follow the main tenets of each system of the humours, elements, diet and lifestyle. But for the children it varies remarkably among the systems. Treating the mother and the child as a single unit is common to all the four systems. Thus, medicines are given to the mother of the infant when she is breastfeeding the child and not directly to the child.
4. Usually, minerals or metals given to the adults are not at all used for children. All the systems use plant and animal products for the babies and in small quantities to be gradually increased. Even external therapies used for adults are hardly ever used for the infants. These disorders are all listed in a random fashion—and not according to the system such as cardiac or gastrointestinal as in the modern medical system.
5. In all the systems most of the common paediatric disorders are covered. Treatments for serious disorders vary a great deal among the four systems. The Unani system deals with common and serious disorders in the same way, as does modern medicine. Ayurveda and Tibetan medicine have somewhat similar approaches by attributing these to supernatural forces. Most interestingly, the 12 disorders are described the same way in terms of symptomatology but attributed to different deities, demons, animals and even a bird, while Siddha medicine focuses on inherited and acquired serious disorders, attributing them to inheritance and contagions by birds, frogs or unclean people. This is unique to Siddha medicine.
6. All the four systems propose inherited and acquired disorders due to internal causes and external causes. The Siddha, Tibetan and Ayurveda system give details of external causes which appear farfetched in many cases, but all the systems warn that these diseases are often fatal and sometimes should not be treated. In some treatments the preferred approach is through warding off and pacification of the evil spirits. These rituals are described in a very extensive manner in Ayurveda, the Siddha and the Tibetan systems. The *tantrik* approaches are common in these systems for these serious disorders. As may be seen from the nature of diseases, in earlier times microorganisms that caused diseases were invisible and hence unknown.
7. All the medical systems are embedded in the cultures in which they evolved. They were bound to have imbibed, to a large extent, elements of folk medicines. Serious disorders in Tibet probably have features of belief embedded in the Bon religion. Both Ayurveda and Siddha systems too are rooted to folk traditions.

What is most interesting while examining the differences among the indigenous medical systems is that each system is dominated by local practices in childcare. It may be said that the childcare in the indigenous systems reveal what its true roots are as seen in their child-rearing practices. This is of utmost importance to a developmental psychologist. It is the cultural context that makes these unique and different. This also indicates that childcare and medicines came from the same cultural and geographical sources. Thus, childcare has the closest link with the folk culture, yet straddles the medical systems.

21.7 Scientific Methodology

The four systems followed the humoral framework with the core concepts derived from the Samkhya and Nyaya systems of philosophy. The theories of aetiology are based on four scientific methods of proof as given in Nyaya philosophy.

1. *Pratyaksha*—by direct observation
2. *Anumana*—by inference
3. *Shabda*—(the word) based on the experience of the sages.
4. *Yukti*—experimentation

(i) Use of direct observation has been the most salient method in *Kashyapa Samhita* (K.S.). While this is a widely accepted method in ancient as well as modern times (especially in psychology), the use of the method is the most important method in *Kashyapa Samhita*—in answer to his disciple Jivaka's question, "How does one examine a child who cannot express in words what is ailing him?" Kashyapa provides an extensive narrative on how to examine through observation of the minor details of body movements, methods of crying, movement of body parts, expression of distress or pain—and arrive at a diagnosis. These narratives would make a modern-day child psychologist feel overawed. In addition, similar observable behaviour descriptions are given for many symptoms of the disorders as well.

(ii) Inference as a method has been used extensively in all the three systems. Inference has been used in different ways. From very rational to irrational inferences may be found. If the body is warm it indicates fever, would be an obvious example. For example, in the *Kashyapa Samhita* disorders of dentition appear bizarre and farfetched due to unscientific inferences. In Tibetan medicine the inferences are based on metaphors, or in Siddha medicine use of a fruit/vegetable leaf and its resemblance to anatomical parts. These influences need to be examined empirically and validated or discarded.

(iii) The word of wisdom: This method may appear old fashioned to a contemporary scientist, a psychologist or a physician. But in the course of the history, most thinkers have taken the word of pioneers as the truth. Based on this belief one progresses by proving or disproving it. A classic example in psychology is the 'word' of Sigmund Freud. What is the proof that the 'unconscious' exists—dynamic concepts such as ego, ID or super ego are real? There are people belonging to other schools who believe that psychoanalysis has no empirical proof to support. The claims Skinner makes are equally important to the followers of behaviourism or learning theories. When contemporary scientists and psychologists believe in 'words', can we question the validity of this method, just because the ancient scholars attributed these to sages and followed them? It is left to us scientifically validate these claims.

(iv) *Yukti:* Experimentation or studying the natural state of the organism has been used in *pramana*—or obtaining proof as a major method in *Charaka*

Samhita (C.S.). The history of indigenous medical systems indicates that these are accumulated, clinical wisdom of thousands of years. That alone should alert us to the need to understand and empirically study them. To sum up, the scientific methodology of using the four methods of direct observation, inferences using deductive logic, accumulated wisdom (word) and experimentation are as good method of scientific enquiry as any modern method.

However, when multiple approaches are used for the study of a particular subject, there is a temptation for the use of single cause and single effect paradigm, an ideal model for statistical analysis. Whenever multiple causes occur as in medical disorders, or climate conditions or even the 'chaos' theory, these traditional paradigms of data collection and analysis prove problematic. Holistic approaches are integral part of the indigenous systems, but contemporary thinkers are wary of these approaches.

These are constructs in the indigenous system that are integral to the systems in attributing aetiology, assessment and treatment which are hard to prove. For example, the basic tenets such as the five elements, the *triguna* and the *tridosha* are such constructs. Perhaps one should look for such models in the other disciplines which attempt to understand very complex natural phenomena.

However, observational method has been employed extensively in childcare along with the constructs of *tridosha* and *triguna,* the elements, the relationship between the individual and the nature. The four systems have used different terminology but the constructs more or less remain the same. The dynamics interactions among the above systems cause health or disease. The treatment of diseases is by bringing about homeostasis using different treatment methods in a holistic fashion.

In the Tibetan medicine the Buddhist ways of rational analysis, study, reflection and meditation are part of the scientific methodology. There are some differences in the methods of examination, diagnosis and treatments. The differences are more marked in the treatment of adults. In the treatment of children it is commonly agreed upon that for a foetus and a suckling infant the treatment is given to the mother. This seems to be based on scientific ground, but needs to be examined empirically.

21.8 Prognosis or Prediction

All scientific enquiries are expected to lead to prediction or in prognoses of medical conditions. Prediction is considered the hallmark of scientific inquiry. In the indigenous systems, particularly in Ayurveda and Tibetan system, there appears a marked preoccupation with predictions. In the *Charaka Samhita*, for example, in a normal child various body parts are extensively described and future is predicted on the basis of physiognomy. In Tibetan medicine, these are described as

'auspicious' or 'inauspicious' signs. Some of the signs are supposed to indicate high intelligence, good memory, good health, longevity and wealth. Some features prognosticate diseases. These predictions cannot be empirically examined and hence cannot be treated as credible.

The various prognostic indicators in disorders seem to be rational, based on clinical observation; the other predictors such as of wealth, happiness, intelligence, memory are rather nebulous in the indigenous systems. In addition, several of the negative prognoses seem to be based on superstitions. Many of the warding off or pacification of evil spirits are part and parcel of our cultural heritage. The only psychological explanation is that these act as placebos and perhaps reassure the patient and the family and promote psychological wellbeing in them.

Some predictors are even related to the time of the arrival of the client or physician, or local superstitions about animals, actions of people, methods of phrasing the questions and astrological forecast. Dreams too have been treated in the indigenous systems as predictors and as auspicious or inauspicious omens. The *Kashyapa Samhita* in fact suggests that dreams can heal too. The premonitory dreams of the physician, the mother, the wet nurse and of the patient are described in great detail. These deal with illness and even death. However, these could also be alleviated through propitious and rituals. This is a fascinating area to be understood on its social and cultural backdrop. Buddhist philosophy sets great score on guidance through dreams.

21.9 Linkages to Folk Medicine

Ayurveda and Unani systems stake claims to adopt the most empirical and scientific approach to the treatments. The practitioners require long years of training. The treatments are varied and standardised. Childcare differs greatly from what is practised among adults is obvious. While Unani does not use any rituals of *tantric* or religious kind, Ayurveda follows these only for treatment of *balagraha*s, which are attributed to supernatural aetiology. In the Siddha and Tibetan medical systems magical and *tantric* are part and parcel of the healing systems. The psychological aspects are part aetiological speculations and treatment. Prayers, talismans, pacificatory offerings, warding off rituals for evil spirits are part of medical systems. These seemed to have emerged out of the geographic regions and local traditions and culture. In essence, these truly represent the diversity in the cultures to which the child belongs to. The medical practices for children is invariably anchored to its roots, embedded in local traditions, culture and folk healing practices.

Shankar and Ram (1995) call Ayurveda, Unani, and Siddha codified systems. The other, the ecosystem rooted, folk stream that is purely empirical. They represent highly decentralised knowledge of health care that is community specific and local resource dependent. According to the Anthropological Survey of India, there are 4639 such ethnic communities.

21.10 Highlights and Differences

Dreams are given much importance in the *Kashyapa Samhita*. Dreams are the product of the mind. These can be premonitory as well as prognostic. A detailed analysis of dreams done by Kapur (2013). These could be auspicious or inauspicious. The care of the mother and the foetus/infant is of utmost importance in the four systems. The treatments are fine grained and calibrated and mostly employ safe plant products which may have been derived from folk healing practices of the region.

Mythological content predominantly figures in the speculations regarding the origins of the systems, with the exception of the Unani system. All the systems also emphasise not only professional competencies of the physician but also their personal attributes as a healer.

If one examines the systems from the perspective of developmental psychology, a holistic approach is common to all the four systems, in the aetiological speculations and treatments. However, Tibetan medicine stands apart from the others in highlighting the supremacy of mind. Mind is the source of diseases as well as healing. While Western psychology has barely acknowledged it, Buddhist philosophy has perfected this understanding. Tibetan medicine is inextricably woven into Buddhist notion of psychology. Thus, only Tibetan medicine is anchored to psychology. Tibetan medicine also goes beyond developmental psychology in its understanding of time and space dimension, by anchoring Buddhist philosophy, Tibetan medicine and Tibetan astrology to embryology.

Siddha medicine offers a fine-grained analysis of phases of child development and bring together the developmental context into the framework of disorders of early childhood, as no other Western and indigenous system does. This is what is aimed at in the area of developmental psychopathology. See Table 21.1 for a tabular analysis of the differences in childcare practices between the four systems.

Ayurveda provides the most extensive documentation on the phenomenology, aetiology, treatment and prognosis of normal development as well as childhood disorders. It also highlights the social context in which the development occurs, in the rites of passage or *samskara*s. It appears that only the Unani system while following a holistic approach and the core constructs of humours and elements remains shorn of social, cultural and religious trappings. It may be said that Tibetan medicine is the most comprehensive, complex and spiritual system while Unani offers a stark contrast by following the same core constructs with authentic simplicity.

In conclusion, it may be said that childcare in most of the indigenous health systems appears to draw strength from folk culture, belief systems and healing practices. Thus, our future exploration should examine childcare from multiple perspectives of sociology, anthropology, developmental psychology and preferred health practices.

Table 21.1 Differences in childcare practices

	Ayurveda	Unani	Siddha	Tibetan medicine
Elements	5 with clear characterisation similar to others	4 with clear characterisation similar to others	5 with different interpretation dissimilar	5 with clear characterisation similar to others
Humours	*Kapha* predominance in children	Unclear	Reverse of Ayurveda	Unclear
Dream Significance	Extensive	None	Somewhat	Extensive
Auspicious Inauspicious Omens	Marginal	None	Extensive	Extensive
Attribution of Supernatural Aetiology	Only in *Balagrahas*	None	Extensive	Extensive
Classification into common and serious disorders	Common and serious disorders	General description of disorders	Nutritional/ metabolic disorder and common disorders	Mild, moderate serious, those caused by evil spirits
Linkages with folk medicine	Somewhat	None	Significant	Significant

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Charaka Samhita	C.S.
Sutra—Sthana	C.S. I
Nidana—Sthana	C.S. II
Vimana—Sthana	C.S. III
Sarira—Sthana	C.S. IV
Indriya—Sthana	C.S. V
Cikitsa—Sthana	C.S. VI
Kalpa—Sthana	C.S. VII
Siddhi—Sthana	C.S. VIII
Kashyapa Samhita	K.S.
Sushruta Samhita	S.S.
Sutra—Sthana	S.S. I
Nidana—Sthana	S.S. II
Sarira—Sthana	S.S. III
Cikitsa—Sthana	S.S. IV
Kalpa—Sthana	S.S. V
Uttara—Tantra	S.S. VI
Ashtanga Hridaya	A.H.
Vriddha Vagbhata (Elder)	V.V.
Vriddha Vagbhata (Younger)	V.

Sutra—Sthana	V.V. I
Sarira—Sthana	V.V. II
Nidana—Sthana	V.V. III
Cikitsa—Sthana	V.V. IV
Kalpa (Siddhi)—Sthana	V.V. V
Uttara—Tantra	V.V. VI

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Chapter 22
Implications for Theory, Practice and Research

The histories of Western and Eastern medicine may explain the present-day differences between the two. The history of medicine of ancient centuries often began with the priests, medicine men, astrologers and philosophers rolled into one. Western medicine in search of establishing scientific credibility and highly influenced by the Cartesian dualism became an independent entity. Subsequently, with the advent of superior medical technology and super-specialisation led to totally fragmented super-specialties. The philosophical moorings disappeared, being considered unscientific. The psychological anchors too were discarded, as body and mind were thought to be unrelated. Astrology and spirituality were completely abandoned as unscientific. Modern medicine became an island by itself. This led to total abandonment of a holistic approach. In the indigenous systems, on the other hand, travelling from India to the rest of South Asia, East, Middle East Asia and the Himalayan regions, the core construct of humoral theories melded into the indigenous systems of medicine, philosophy, religious and folk practices—producing distinct systems.

Thus, these indigenous systems actually expanded their ambits with their holistic approaches. Tibetan medical system explains this holistic approach perfectly. While offering stark contrast into holistic approaches, something else too fell along the way in the practice of Western science as well as medicine. That is, the complete divorce of spirituality (religion) from the practice of medicine. It was firmly believed that the science and the medical practice adhering to it cannot accommodate spirituality in its fold. The World Health Organization's proposal for inclusion of spirituality (see Chap. 1) pays only lip service to accommodating spirituality in medical practice.

The indigenous systems mostly accommodate the spiritual/religious needs of the patients. In the Tibetan and Siddha systems, spiritual practices are completely embedded in the healing process. This is a question one should ask—whether by accepting and accommodating the spiritual needs of the client does the practitioner become non-effective and unscientific? Perhaps it is the pursuit of science and medicine which denies the spiritual moorings of the patient that needs to be re-examined.

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Indigenous systems accept that the symptoms, aetiologies and treatments are multifactorial and hence there is need for a holistic approach. Overlapping of symptoms is much more common than generally thought to be. Western medicine is slowly outgrowing Cartesian dualism by adopting different approaches to healing as seen in health psychology, developmental psychology and positive psychology.

Childcare in the indigenous systems shows the most conclusive evidence as being linked to the very basic indigenous and folk healing practices. Paediatric systems appear to be most unique and idiosyncratic of the various branches of the indigenous systems. This in turn appears to suggest that the medical systems took their unique forms starting with childcare practices. This supports the contention that developmental approach was embedded in the indigenous medical systems. This is in stark contrast to the earliest known childcare practices in Greece by the Spartans that left weak infants out in the open to die.

The literature on child-rearing practices and socialisation abounds in theoretical speculations of the pioneer thinkers, who based their hypotheses on ancient and contemporary retrospective data on adults. Obviously, there is a need to collate observational data on children from infancy onwards in the four indigenous systems of medicine. *Kaumarabhritya,* a branch of Ayurveda, provides data collected on normal children in natural settings and during periods of various illnesses. The observation of developmental phases and of disorders appear astute even after a span of 3000 years. It stands to reason that aetiological speculations and consequently many of the treatments may not appear to be appropriate today as more scientific evidence has accumulated. However, even in the contemporary context, such mistakes do occur between aetiological speculations and treatment strategies in the bio-psycho-social domains. It is necessary to be sceptical, yet open-minded. The observed data in children in its myriad forms have to be empirically tested with reference to the aetiological speculations and recommended treatment methods, using time-honoured scientific methodology. Perhaps the holistic and multiple approaches to treatment could be as described in this book may be the *deepika* (a light shining the path) for researchers and practitioners in the coming millennium.

The question raised in this chapter is whether childcare in the four systems is holistic and developmental in perspective. Are the contemporary concerns of developmental psychology and paediatrics embedded in it? If the answer is ‘yes’, what can we learn from these systems?

Contemporary childcare practices do not reflect intentionality in most realms, with the exception of perhaps gender discrimination, while the ancient childcare practices appeared to adhere to it in a dogmatic fashion. Examples abound in the expectant and nursing mothers’ life style, diet, mental and physical attributes and aspirations, as determinants of the future physical and psychological traits of the infant. The *samskara*s (or their equivalents) aim to modify constitutional vulnerabilities and to control the course of the bio-psycho-social development of the child. This is achieved by initiating the mechanism which determines the future course of development. It is interesting to note that those aspirations and predictions are communicated to the clients by the physician in detail. In modern medical practice this aspect is often overlooked. Yet, these appear to be simply

aspirations as there is no empirical evidence to support them. In addition, there are far too many armchair speculations, at times even contradictory to each other, and these may not stand up to rigorous examination. However, some of the salient ones can be tested at least over a short span of time, if not longitudinally, over the life span of the individual. Some specific linkages which may be explored in child-rearing practices and child development are as follows:

(i) Does better psychological and physical status of the expectant and the nursing mother lead to psychological and physical well-being of the infant?
(ii) Does specific adherence to regimen of lifestyle, diet, drugs, attitudes and mood states of the mother lead to better health and enhanced development in the child?
(iii) Do uncongenial childcare practices affect the infant's health and development adversely?
(iv) Does feeding the newborn with special concoctions lead to accelerated rate of development, specifically in terms of intelligence, memory, speech and language, or on health parameters, as claimed?
(v) Do the above concoctions enable children with delays in developmental milestones to gain skills which they otherwise would not gain?
(vi) Do the bathing practices along with light oil massages provide multisensory stimulation to both normal and 'at risk' babies, and lead to enhancement of physical and psychosocial development? This has been supported by cross-sectional studies but needs to be examined in longitudinal contexts.
(vii) In an infant who is fed wholly on breast milk, can the route of administration of drugs be through the mother and not to the child? (Conversely, how much of the drugs administered to the mother affects the infant's health or otherwise).

Some of these questions are of interest to developmental psychologists, paediatricians and other professionals working with children with disabilities.

22.1 Ancient Practices and Concepts and Their Relevance to Contemporary Psychology and Paediatrics

The examination of childcare practices of the ancient times clearly reveals that the interaction is two way, between the child's inherited (and acquired) characteristics and the forces affect them from the environment such as diet, drugs, rituals etc.

A large number of practices aim to achieve certain of desired goals, however, because of the inherent interactional process these may not be achieved. There are several possible areas of study open to empirical verification. A study by one of the authors lends empirical support to the contention that the psychological *guna*s of *rajas* and *tamas* predispose a child to psychological disturbance, while *sattva* is a predominant temperamental trait of well-adjusted, normal preschoolers. The construct of temperament in ancient Indian thought was examined empirically by Kapur et al. (1997) based on '***trigunas***' from the Samkhya tradition. A

temperamental profile with 17 items was used to provide a theoretical model based on ancient Indian thought, which consists of *sattva, rajas* and *tamas,* and to validate them empirically with a study of normal and disturbed children. The Western model was difficult for Indian mothers to understand. For the sake of scientific parsimony, Western researchers have used a narrow band of traits to measure temperament: their models include only biological predispositions. The *triguna* model includes biological as well as psychosocial dispositions. The dimensions measured in the *triguna* models are: manageability, trust, dependence, sleep, appetite, activity level, morality, emotionality, sociability and aggression. These dimensions go beyond the Western conceptualisation of temperament. The study demonstrates that some of the major constructs proposed in ancient Indian literature do lend themselves to empirical inquiry as seen below.

The sample consisted of 50 normal nursery school children screened for behaviour problems and handicaps and 30 children with psychiatric disturbance in the age range of 4–6 years. Both groups were administered the temperament section of the Developmental Psychopathology Check List (DPCL) by Kapur et al. (1995). The checklist was orally administered to mothers who had to say whether the child 'mostly', 'somewhat' or 'not at all' exhibited the particular item of behaviour. The results showed that 26 of 50 of the normal preschoolers had *sattvik* (good natured and well-adjusted) temperament, 14 were predominantly *rajasik* (high-strung/active), 5 were *tamasik* (torpid/dull) and rest of the five had no predominance of any particular predisposition. The clinic population of 30 children in the same study had three subgroups: one with emotion/learning disorders, one with hyperkinesis/conduct disorders and one with autistic disorders. The three groups, despite the small size of the subsamples, showed distinct profiles. The autistic group had the highest degree of disturbance, with hyperkinesis/conduct disorder in the middle, and the learning/emotion disorder group showing least degree of disturbance. The groups did not differ on the dimensions of sleep and appetite. The group with emotion/learning disorder had high sociability in the family context and low verbal aggression. Activity level and physical aggression was high in the conduct disorder group. Comparison of the 50 normal and 30 disturbed children revealed that the normal group was easily manageable, dependable and trustworthy while the disordered group had higher activity level, emotionality (angry/irritable than cheerful/happy) and sensitivity only towards self.

Differentiating normal temperament from those typical of psychiatric disorders is of crucial importance not only for assessment but also for management. The findings of this study, however, need to be examined in larger samples, across time (stability), age, gender, disorder and cultural contexts. The present assessment tool may be used for such studies. The relationship between temperamental traits and psychopathological conditions needs to be examined. Questions such as whether certain temperamental traits predispose a child to a specific disorder, whether the temperament is an early manifestation of a full-blown disorder at a later date, whether temperament and psychopathology share a common root, remain unanswered. Yet another question is, whether *sattvik* temperament is a protective factor

against psychopathology as claimed in Ayurveda. The above empirical study of temperament based on the *triguna* model holds promise for research in the Indian context, not only in the study of psychopathology but possibly to study temperament as a mediating factor in the interaction between child-rearing practices and psychosocial development.

Following are some of the research queries which can be answered through empirical evidence:

(i) Do the three physical *dosha*s (namely, *vata, pitta* and *kapha*) and the psychological *guna*s (*rajas* and *tamas*) explain temperamental predispositions among children?
(ii) What are the consequences of mismatch between the mother's constitution and child's temperament–based on the *tridosha* and *triguna* models?
(iii) Can these inborn proclivities be changed through right regimen of life style, diet and drugs as claimed in the ancient texts?
(iv) The *tridosha* form the basis of healing practices by recognising individual differences amongst the patients, while modern medicine does not take into account this aspect at all. Does this model merit any consideration in modern medical practice? Individual differences play a minimal role in treatment in Western/modern medical practice. Dosage according to weight is accommodated. Side effects of drugs or adverse reactions to drugs are noted as exception to the rules, thus not to be highlighted.
(v) The *tridosha* model has a special role in the treatment of infants as revealed by extensive descriptions of pure or impure breast milk. These hypotheses regarding affected breast milk and infants' health status can also be empirically studied. More specific questions can also be asked, such as, what adversely affects breast milk and, in turn, what effects does such milk have on infant's health? How can these effects be eliminated from the mother and the infant using Ayurvedic methods?
(vi) However, the most difficult construct to understand and subject to empirical validation are the elements, be it four as Greek and Unani medicines or five as in Ayurveda, Siddha and Tibetan medicines. The missing one in Unani is *akasha*. This particular element has been called by different names and is described as having different attributes. The elements represent the unity of the universe we live in. Elements are part of the humours; hence these too are shared properties of the man and his universe. The elements such as air, fire, earth and water appear to possess their natural characteristics. These descriptions somewhat vary between the indigenous systems, but the unity of the systems within the universe is unquestioned. Aetiological speculations and treatments are based on them. But can these theoretical constructs be empirically measured? Perhaps not. The researcher may have to settle for validating a more accessible experience to start with. Measurement of an ocean is beset with limitations of human capabilities. What can be measured and experimented upon should be carried out.

22.2 Holistic Approaches in the Indigenous Medical Practice

Western theories are segmental and scientifically parsimonious. In contrast, ancient Indian theories and practices of disease and health are exceedingly complex. They span across bio-psycho-social domains of the individual. The exogenous causes include the natural and the supernatural. The scientific parsimony of Western developmental theories (cognitive, language, emotional, social, moral and sexual domains) may explain a single domain in contrast to the holistic approaches of the ancient Indian thought. The indigenous world view is holistic and does not subscribe to Cartesian dualism. This holistic approach can be adopted as an ideal approach and further studies of segmental nature can be carried out only to accommodate practical and logistic concerns.

The constructs of *triguna* and *tridosha* represent biological vulnerabilities and predispositions which manifest as psychological and physical health or illness. The *samskara*s represent the prescribed activities to promote what is healthy and modify what is not. This appears to be the very essence of the holistic approach. Ideally, one could adopt it for a research paradigm.

A parallel can be drawn between a contemporary theory of chaos and holistic theory of man and his universe in the ancient Indian thought. The nature of man and his universe is somewhat in the nature of fractals within the chaos model. Man is a symbiotic unit of the universe and there are innate similarities between *prakriti* (nature) and the world. However, the chaos theory is yet to make an impact on the fields of psychology or medicine. An exception is 'health psychology' which adopts a holistic approach.

22.3 Child-Rearing Practices from the Indigenous Systems to the Present Day

There are several child-rearing practices and constructs of temperament need to be further validated empirically. These are:

1. Examination of temperament and physical and psychological disturbances based on ancient childcare practices.
2. Examination of contemporary childcare practices across gender, social class, religion, urban/rural residence and also what has survived, what has been modified and how effective these are in the present day.

22.4 Developmental Perspective and Ancient Child-Rearing Practices

Ancient child-rearing practices have made accommodations for age, gender and socio-cultural religious anchors of the individual. These are briefly described below.

22.4.1 Age Context

Examples of age-related changes abound in *Kaumarabhriyta* and in Siddha systems. The changes in the growing foetus in terms of physical, cognitive and emotional development are described sequentially (these were considered significant enough to be documented 2000 years ago). Similarly, the care of the newborn is described across days and months. The *samskara*s deal with the evolving theme of development. The effects of *graha*s are vividly described on the basis of each day, each week, each month and years of afflictions. In short, normal development, disorders and their treatments are entirely dealt with in an age-related framework.

22.4.2 Gender Context

Apart from gender discrimination noted on occasions, gender appears to have been a major factor in child-rearing practices. It must be noted that differential treatment was not necessarily biased against women all through the life cycle. Expectant and nursing mothers were held in an exalted position in terms of diet, comfort and social support. Rituals to celebrate her status were commonly practised. Diets of the mother- and father-to-be were exclusive and different. In various rituals, the left side of the body was considered auspicious for women. For example, in the *samskara* of *Karnavedhana*, or ear-piercing ceremony, the girl child had her left ear lobe and the boy child had his right ear lobe pierced first. In the cultural context, gender was an important factor, treating men and women as distinct and separate rather than superior and inferior. Of the 10 *samskara*s, *garbhadharana* refers to the prospective mother and father, *pumsavana* to herald the birth of a son, while *simantonnayana* was to celebrate a successful pregnancy, *jatakarma* (for birth of boy or girl, with significant chantings to celebrate the boy's birth), while *parikramana* (outing), *Karnavedhana* (piercing of ears) and *annaprashana* (initiation of solid diet) were common to boys and girls. However, *chudakarana* (shaving of head) and *upanayana* (initiation into educational field) were specifically meant for boys: promoting individuation, separation and scholarship as important developmental tasks. Similar gender discrimination is seen in the Siddha and Tibetan systems.

22.4.3 Cultural Context

In addition, *upanayana* and beginning of education are initiated at the earliest age for Brahmins, and at later ages for other castes. Many of the rituals used to be conducted not only for religious reasons but also for social ones. In the present-day context, we find that the developmental continuities and discontinuities need to be further examined, while ancient practices presupposed such continuities. Discontinuities were attributed to extrinsic or intrinsic factors.

22.5 Indigenous Practices and the Scientific Methodology

In the present work, an attempt is made to examine the methodology adopted by scanning through the content of various texts in Ayurveda, Unani, Siddha and Tibetan medicine. The texts are characterised by

(a) Easy memorability (going back to oral traditions of healing practices as they are brief and precise verses which are in the form of aphorisms). Once memorised, they remain in the mind of the healer as a ready reckoner).
(b) Careful, methodical, detailed observation and documentation were carried out, of the phenomenon in question, be it childcare practices or treatment.
(c) A strong need to prognosticate in the absence of empirical proof was present. The theory was proposed and taken to be fact, at times stretching far beyond reality into flights of fantasy, as seen in the analysis of anatomical features.

It must be noted, however, that most of the speculations were supported by sound clinical experience over the centuries as well as observed inference, the word and experimentation, as defined by Nyaya philosophy.

22.6 Indigenous Approaches and Social Context of the Time

The young infant and expectant nursing mothers were accorded, or at least recommended, the best of care for the promotion of physical and mental well-being of the infant. In addition, dire predictions of pathology in the event of noncompliance of prescribed regimen were issued: These descriptions would lend themselves to content analysis by psychologists and sociologists for exploration of the psychosocial contexts in which these practices could have emerged.

22.7 Treatment Strategies in the Indigenous Systems

Treatment of various disorders may be scientifically examined. While the studies conducted in the past two decades lend credence to the efficacy of the age-old practices, there is a need to examine the treatment strategies for each of the disorders. These treatments are more acceptable as they are expected to be free of side effects at appropriate dosages. Of special interest to psychologists are the claims of concoctions which enhance intelligence, memory, speech and overall physical and psychological health.

The approach of multiple treatments, i.e. multiple drugs and other regimen of diet, exercise, religious rituals, etc., needs to be examined in their socio-cultural contexts. It is important to note that a large number of drugs are produced using

common and rare herbs, roots, minerals, oxides of metals and natural foods. These seem to be appropriate and safe, especially in the paediatric population. But all the systems use mostly herbal preparations for children.

Developmental context was built into the system, by incorporating age, gender and cultural contexts. All behaviours and treatments were context related. Approaches were based on 'right time, right place, right rituals and right person', leading to high sensitivity to contextuality in the Indian ethos. Interactions were always dynamic, contextual and forward looking. This perspective is of special interest to psychologists and sociologists.

Childcare in the indigenous system has important implications. However, due to technological advancement, a number of practices may have become redundant and irrelevant to the modern day upbringing of children. It is thus important for us to glean through them, conserve and promote those which are useful. This could be done if we can scientifically validate preferred several of the assumptions underlying these indigenous practices.

It is noteworthy that individual differences among the patients as revealed in *tridosha* and *triguna* constructs form the basis of enhancement of health and treatment of disorders. This has been paid scant attention in the modern medical systems. This needs further exploration and examination. Not only are humours and temperament important: the five elements also have a significant role.

We, however, need to remember that despite the progress civilisations have made, millions of children in the developing countries continue to live in deprived conditions, with no health care. A simple manual of health care, with home remedies of proven efficacy, may go a long way in enhancing the health and psychosocial development of children. Conserving some of the age-old practices such as massage and bath would promote psychosocial development in these disadvantaged children. Can modern paediatricians and developmental psychologists prepare a simple manual that lends itself to oral transmission of distilled wisdom of the ancient times, which also fits into the cultural ethos of the nation of which a very large number is illiterate?

22.8 Straddling Western Psychology and Ancient ChildCare Practices

The first theme is positive psychology, a relatively new concept in Western psychology. Roots are in the humanistic psychology emerging out the work of Maslow, Rogers and Fromm. By 2000, Seligman and Csikzentmihalyi gave shape to positive psychology focusing on the four aspects of positive experiences, enduring psychological traits, positive relationships and positive institutions.

However, it needs to be highlighted that the indigenous medical systems place equal emphasis on good health—both mental and physical, while dealing with pathology the '*tridosha*' triad deals with constitutional traits. The concept of '*triguna*' deals with psychological traits. Of the three *guna,* the predominance of *rajasik* and *tamasik*

denotes psychopathology, while '*sattva*' represents well-being—and a desirable trait. One may be born with this trait. Yet it is not a deterministic notion. It can be cultivated by right kind of life style, diet, good company and so on. *Sattva* renders a person invulnerable to stress and to be compassionate to all.

The second theme is of using the mixed models for understanding and treating psychopathology. While explaining a disorder in a psychoanalytical framework, we have treated the same with behavioural methods. In the Indian healing systems, there are multiple aetiologies attributed to the same syndrome. The same aetiological factor can produce multiple symptoms. The causes may be in the bio-psycho-social domains, and hence the treatment too must be accordingly tailored to the needs of the individual approach in holistic manner.

The third theme is health psychology. It emerged in 1978 as pioneered by Logan Wright (Kazdin 2001), the importance of bio-psycho-social domains are highlighted. The Western medicine has borrowed from the Cartesian dualism of the body and the mind. Health psychology deals with relationship between behavioural, cognitive, psychophysiology, social and environmental factors in establishment, maintenance and detriment of health. In the indigenous systems the body, mind, the family, community and the universe that we live in are one. The holistic approach pre-empts the need for the limited approaches adopted in health psychology.

The fourth theme is in the area of developmental psychology or the life cycle approach (Kapur 2005, 2008) as seen in the indigenous systems. It is very crucial to our understanding of human beings as they pass through the life cycle. Developmental psychology as a broader field, covering all phases from birth to death has emerged out of developmental psychology as formed the basis of child development. It highlights the developmental phases from infancy onwards, interaction at bio-psycho-social and cultural as contributors to development as well as continuities and discontinuities in development. The observations are reinforced by naturalistic observations and empirical studies on infant and children and less on theoretical speculation as in the case of psychology of adults. The domains of development described as discrete chapters in Western books on child development—is an artefact. The physical, intellectual, language, emotional, social, moral and sexual development occurs simultaneously, interacting and interwoven. Our own work (Kapur and Mukundan 2002) on child Ayurveda based on the *Kashyapa Samhita* (Tewari 2002) has valuable insights into child development and treatment.

1. Care of the expectant and the nursing mother.
2. The mother and the child are seen as a symbiotic unit.
3. Evolution of the mind in the foetal stage.
4. Inheritance of physical and psychological dispositions (*Tridosha* and *Triguna*).
5. Promotion of physical and psychological health (*samskara*s).
6. Minor and major disorders of childhood, phenomenology, aetiology and treatment, diagnostic classification of disorders.

Studying children through their developmental phases gives insights to the study of adults. In Ayurveda, an example of study of temperament is a case in point

(Kapur et al. 1997). *Triguna* is present at birth and gets modified as one grows into an adult. In the study of personality in adult, there are separate tests for children and adults instead of seeing continuities/discontinuities in the developmental context. The holistic models developed in childcare can be adopted for adults and evaluated empirical validation of use of ancient Indian constructs in the study of developmental, health and positive psychology is one way forward.

The fifth theme is resilience. It is the observation of positive outcome in the face of adversity that has led to a paradigm shift away from pathogenic or deficit models based on expectations of strong unidirectional effect towards adjustment problems or ill-health, instead of health and well-being (Antonvsky 1979; Cicchetti and Garmezy 1993; Huppert et al. 2005). This of great relevance in developing resilience enables us to examine positive outcome despite deprivations (Kapur 2013). Interestingly, the name Jivaka, the scribe of *Kashyapa Samhita*, means resilience and invulnerability. Resilience is mentioned as the state that is inherent in *sattva*. *Sattva* is a *guna* but is not a pathological one when in excess like *rajas* and *tamas.*

In Ayurveda, *sattva* is given a pivotal place, which we aim to attain. It could be inherited or acquired through right practices. In the *Kashyapa Samhita*, *sattva* should be the key personality characteristic of the healer. Such characteristics are considered to be the hallmark of the good physician in the four indigenous systems. Kashyapa goes ever beyond and says, *sattvik* nature enables the infant to retain past memories, somewhat akin to the Buddhist notion of reincarnation. Whether this is related to karmic forces is a matter to be studied. It may be speculated that *sattva* is the bearer of good karmic forces. Thus, nature of *sattva* appears to be a key construct in our search of positive psychology.

The sixth theme is of contribution of spirituality to mental health (Kapur 2009). The author's own experience as a collaborator in the above research that included visiting and interviewing hermits (*sanyasi*s) in the Himalayas was a revelation. These are ascetics who choose a life of austerity and spirituality. This is totally in contrast to hedonistic pleasure seeking as a path to well-being and happiness. The psychoanalytic concept of the pleasure principle and the behavioural theories relying on learning theories view the world in a very simple and limited fashion. While Eastern spirituality focuses on change from within the person that is the source of happiness. This is of utmost importance in understanding an individual in the Indian context. The indigenous healing systems have attempted to understand this complexity. In contrast, the Western medical approach focused on fragmented ways of understanding human mind and behaviour by favouring scientific parsimony, as if it is a predetermined jigsaw puzzle that can be understood in totality. A science that is parsimonious can hardly answer a complex question. The existential psychopathological model focuses on negative aspects and the humanistic one adopts positive aspects. There are no major breaches between Indian philosophy, healing and spirituality and psychology. Western psychology moved from its original source of philosophy and focused on being a science adopting experimental and medical approaches.

22.9 Research in the Indigenous Systems

Apart from the suggestion for ideas of research albeit, a brief look at the present-day samples of published research in the indigenous systems suggests the following drawbacks. In general, it has been observed that all the indigenous systems have accepted that research being a scientific endeavour needs to follow Western scientific methods, with drug trials as models. Be it Ayurveda, Siddha, Unani or Tibetan research, these generally take a single disorder, apply a single treatment and report the results. While in practice, these systems favour multiple treatments in view of the multiple aetiologies that are proposed. What is overlooked is the basic tenet of holistic approach to external factors such as diet, lifestyle, drug, regimen, in the context of the internal factors such as *tridosha* and *triguna* operating in each individual patient. While in practice these are generally carried out, the same paradigm is not used for research. Multiple aetiologies, multiple symptoms and multiple treatments need be researched upon in a holistic manner. It is commendable that the Central Council for Research in Ayurvedic Sciences (CCRAS) has been encouraging and promoting research in all the indigenous systems.

A brief review of a sample of 50 published research articles in Avurvedic paediatrics from 1980 to 2000 (Kapur and Mukundan 2002) reported several Ayurvedic plant-based drug trials that were conducted for clinical conditions such as disabilities, hyperactivity and somatic disorders. Some had control groups as well as placebo groups in place. But all of these followed empirical studies along the standard experimental designs. Thus, single disorder and single drug was the trend. This completely negates the holistic approach in indigenous systems.

Yet another sampling of research in general in the Unani system is described, albeit, briefly. A summary of research between 2007 and 2011 (Jafri 2012) deals with 31 research studies in medicine, 34 in pharmacology, 20 in obstetrics and gynaecology, along with 93 in preventive social medicine—a total of over 150 studies. All of these focus on mostly adult disorders. All of these deal with a single disorder with single Unani treatment of one kind or the other. The multiple treatments regimen recommended in the Unani system has not received the attention of the researchers. In the Unani system, e.g. a recent subsample of research studies (four preclinical, four clinical and two community studies along with four short communications) published in the *Journal of Research in Unani Medicine* in 2012 from the National Institute of Unani Medicine, Bangalore follows Western evidence-based empirical methods. Wadub (2012) in the editorial recommends a move from tradition-based to evidence-based research.

The Siddha system too follows a similar trend, but mostly gives single case descriptions. A treatment evaluation in the Siddha system is beset with problems of inaccessible or particularly reported studies or anecdotal accounts. Among adults, use of processed copper for peptic ulcer has been examined. The research covers preparation of the compound, dosage, frequency of intake, bath water infused with '*omam*' and cumin seeds, for a stipulated number of days, and bland diet is advocated. This certainly adheres to a holistic approach (Subbarayappa 1997). The results are reported as positive. But details of numbers of patients, their demographic details and pre- and post-assessments need to be reported.

Apart from description of herbal preparation for children, the author has not been able to access published reports of studies on paediatric population.

In Tibetan medicines too most are case reports or anecdotal accounts. It is suggested that those who wish to start research of the future may attempt to conserve and empirically examine the strengths of the indigenous systems rather than blindly following Western models or Western drug studies.

22.10 Theoretical Constructs

Manohar (2014) has succinctly pointed out that with reference to Ayurveda, the core principles are foundational while their applications are context-specific. He compares them to map making and its uses by traveller in a particular region. He highlights three major misconceptions that cause directions of Ayurveda from its foundations. In the contemporary scenario, Ayurveda is reduced to herbs and herbal medicine. Whereas, Ayurveda adopts an integrated approach to healing by addressing the mind, body and self of the individual. Ayurvedic products are simplified into single drugs. Even other treatments are grossly simplified for easy application and acceptance. Unfortunately, the pharmaceuticals of Ayurveda products thrive on by following international global-marketing strategies. As despairingly questioned by Jalaja (2014) "The contemporary call for globalisation of Ayurved—genuine or fake!" The guidelines for research by Manohar (2014) appear very sound and equally applicable to all the four indigenous systems as these shares the same fundamentals core constructs. He suggests a three-pronged strategy.

(i) The focus of research should be on the core constructs, than the proof of efficacy of single drugs. He suggests core concepts such as *samya, sodhana, rasayana* and *prakriti* are the ones which need to be studied.

(ii) The research should focus on methods that study the complex ways in which the herbs are combined and processed than single herbs or molecular factions.

(iii) The research should focus on studies that assess the complex person-centred multimodal approach to treatment. The piecemeal study of single components of treatment with disease specific approach does not help to demonstrate the core strength of Ayurveda. The examples cited by Manohar (2014) are the Valiathan Science Initiative that seek to validate concepts such as *rasayana* (ageing), *prakriti* (constitution), *panchakarma* (cleansing) and *rasashastra* (use of metals in treatment).

He cites stray studies that have been are on curcumin, pepper and pomegranate and their efficacy in healing several disorders.

Clinical research in Ayurvedic treatments is a challenge to randomised clinical trials as the treatment package consists of poly herbal formulations, dietary regimen, external therapies and behavioural prescriptions. Manohar cites one such study on rheumatoid arthritis.

22.11 Linkages to Physician Qualities and Folk Practices

It is to be noted that in addition to the above efforts, one needs to examine the role of spirituality in healing practices, invoked in all the four systems in varying degrees. Physician qualities are completely overlooked except in psychotherapeutic practice. Modern medicine holds competency as the key criterion of a physician. But in the indigenous systems, it is only one of the requirements. Especially in childcare, there is close linkage between folk beliefs and practices and healing. This necessitates that healer paradigms fall in line with patient expectations. Only when the researcher is convinced that a practice is harmful should the practitioner dissuade the use of these practices.

22.12 Need for a Paradigm Shift

Perhaps a paradigm shift is needed into research in the indigenous systems. Perhaps it is necessary to move away from the rigid drug trial model to more flexible systems of data gathering and data processing. Can we simultaneously examine quantitative and qualitative data? Can we incorporate multiple treatment regimens and study their impact? Can we use the construct of humour consisting of *triguna* and *tridosha* and explain it as the reflection of genuine individual differences among people? Can we set up aetiological hypotheses about diseases and empirically examine them? Of course, Western medicine is replete with examples of treatment that work but no theory to back them. Perhaps the focus should be on finding out what works and what does not and also why not. Studies of failures need to be reported as well.

Dalal (2012) in his excellent overview on qualitative and quantitative methods provides the following argument: scientific temper declares that time-honoured qualitative methods should be used. The phenomena studied are physical and psychological in nature. These are studied as a set of variables, qualified and subjected to further analysis. These variables are further differentiated as independent, dependent, intervening and extraneous variables. This provides a basis for formulating hypotheses as well as theories. The qualitative data are further subjected to statistical analysis. Development of tools of measurement, their reliability, validity and generalisability are part of quantitative research. The methods used are: experimental, surveys, questionnaires, observation and tests.

Qualitative research deals with lived experiences and deals with subjective realities. The methods are of two types.

1. Positivistic: Content analysis, ethnography, case studies and available literature in the area.
2. Constructionist: Grounded theory, narrative research, focus group, ethnography, discourse analyses and phenomenological research.

22.13 Research Methodology Suited to Indigenous Systems

Perhaps a brief discussion on research methodology for indigenous healthcare systems would be a way forward to selecting appropriate methodological approach for holistic systems. Quantitative methods have always been advocated in medical research. However, indigenous health systems are socio-culturally rooted, and the method of choice ought to be qualitative along with quantitative methods. The advantage of being ethnographic reflects the true nature of the subject of study or close to it, and most importantly accommodates a holistic approach. The methods would thus be interview, focus group, participant observation and other ethnographic approaches. These methods may enable the researcher to formulate hypothesis and subsequently test them. There are statistical methods which can apply to qualitative methods as well. This counters the argument against the qualitative methods being subjective.

An example may be given as to how the holistic intervention outcome data could be analysed. It could be a treatment package for an adult or a child.

22.14 Treatment Methods

Recommended

A. Drug according to disease/humours
B. Drug preparation to disease/humours
C. Daily activity schedule
D. Relaxation/meditation/techniques
E. Medicated oil
F. Massage/bath herbal

These could be considered under multiple baseline phase designs, as elaborated by Dugard et al. (2012) in their book on single case and small-n experimental designs and randomisation method. For example, regime A could be all the five things, B could be A, B and E. Regime C could be just E and D. These could be studies over 4–6 weeks. If the observer is ignorant of the group the participant is in, the observer bias will be eliminated.

To sum up, the qualitative and quantitative methods could be combined and small-n randomisation methods would enable a practitioner of indigenous systems to conduct research appropriate to the holistic nature of their theories and practice.

The holistic approach to aetiology, phenomenology and treatments need a complex paradigm of research and not the simplistic ones being followed at present. It should have a multifactorial and non-linear approaches taking into account the multiple variables involved. Such complex models are seen in case of chaos theory, in the climate research or as ‘systems approach’ in biology. Complex subjects cannot be studied with simplistic paradigms. As these are holistic and developmental approaches, the indigenous medical systems need a paradigm shift towards multifactorial non-linear designs.

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The original version of this book was inadvertently published with some figures appearing twice. Figures 13.2, 13.3 and 13.4 (pp. 153–155) have also been incorrectly listed as Figs. 12.1, 12.2 and 12.3 (pp. 135–137). Readers may ignore Figs. 12.1, 12.2 and 12.3 and the citation that appears on p. 134.

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